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**Master's Thesis**

The Role of Innovative Learning Environments for Students' Opportunity to Learn  
(OTL)

Findings From an Explorative Study at an International School in Japan

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## Declaration of Authorship

I confirm that this Master's thesis is my own work and I have documented all sources and material used.

This thesis was not previously presented to another examination board and has not been published.

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### Abstract

Regardless of our fast growing society, our education system has not been evolved since a decade ago. In order to reconsider and reshape to innovate our traditional learning environments and experiences to be more 21st century appropriate one, it is essential to look at an existing example. Therefore, this study explores the role of Innovative Learning Environment (ILE) for students' Opportunity to Learn (OTL) through qualitative approach with an international school in Japan. The definitions of these two concepts share similar values: ILE aims to deliver quality and fruitful learning opportunities and experience for pupils by adopting certain learning principles and practices, and OTL is considered as "ingredients" for students' quality learning. Thus, it is assumed that ILE plays a significant role regarding learners' OTL by providing enriched ingredients to pupils. However, despite the similarities of their features and values, there is substantial lack of research that brings together these two concepts. Therefore, this study gives an importance to encourage active discussion in respect to this fairly new domain of education research. To analyze ILE and its relation to learners' OTL in depth, informal classroom observations and semi-structured interviews with 11 participants including students, teachers, and school principal were conducted. The results indicated that ILE promotes more complex and delicate opportunities for learners through strong relationship between students and teachers, collaborative pedagogical methods, flexible use of time and space, small-scale classes, and so forth; thus, ILE plays an important role to provide multifaceted ingredients for students' learning.

*Keywords: Opportunity to Learn (OTL), Innovative Learning Environment (ILE), 21st century competencies, traditional learning environment vs. ILE*

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## **Introduction**

The world is evolving faster than ever – things around us and what is available for us are vividly different from a decade ago. Due to the advancement of the society, our opportunities in life have expanded in numerous directions and education should not be an exception to this phenomenon. Because of this enormous change in our society, necessary skills, abilities, and knowledge that 21st century seeks are more complex than ever before. People are expected to be prepared with these competences before proceeding to a professional path; yet, today's education system hardly satisfies those urgent needs. Along with OECD, many researchers and educators have claimed the ways of pedagogical practice as well as the structure of learning spaces have not amended since the last century (Bolstad et al, 2012; OECD, 2013, 2015; Osborne, 2013). Mark Osborne (2013) from CORE Education, an educational research center based in New Zealand, stated that majority of schools in New Zealand were built during the time when education was supposed to be “factory-style learning where all students learn the same things, at the same time, in lock-step fashion” (p. 3), which was believed as the only pedagogical style that leads to academic success and sufficient learning, and most of those schools not only in New Zealand but also many other areas of the world still maintain this way of pedagogy contrary to the demands and requirements of our current society.

Regarding the traditional instructional approaches – authoritative model known as teacher-centered education – numerous researchers have declared that those approaches may not allow students to acquire constructive skills and what students learned in class does not stay as their own knowledge after the term (Udovic, Morris, Dickman, Postlethwait, & Wetherwax, 2002). One of the most crucial problems of our current education system is to

lack connections to real-settings (Bransford, Brown, & Cocking, 2000) in order to make knowledge for our own and apply it to different situations. In this type of environment where pedagogical practice is kept in the traditional way, learners' opportunities to comprehend subject topics are often restricted since numerous courses accentuate recollection instead of deep understanding – class materials are constructed with full of information which pupils are meant to memorize and those memorized facts are assessed via examinations as if they are evaluating memorization capacities of students (Bransford et al., 2000). In fact, scholars such as Benjamin Bloom (1964) have concerned throughout the history how conventional academic environments have been better at picking out aptitude rather than growing it. OECD (2013) additionally stated that traditional form of classroom practice was possibly understood as to satisfy social aspects through performing mass-teaching; yet, individualization has only little room in it.

The key takeaway here is that majority of researchers who have studied specifically this field claimed that traditional learning environments, academic structure, and instructional strategies do not fit into our current circumstances and social needs; therefore those aspects ought to be up-to-date (Bransford et al., 2000; Osborne, 2013; Cleveland, 2011; OECD, 2013, 2015). Objectives of learning for educational institutions have experienced significant transformations in 20th century so that expectations with regard to schools are not comparable to their century ago. Surely, learning environments including communities are there for learners to gain knowledge; however, designs, procedures, technologies, and learning requirements are shifting (Ochola & Achrazoglou, 2015). Now, education and its environments are expected to leave the formal way of pedagogical approach and seek for innovative transformations.



Recent inspirations of how to accelerate learning (e.g., creative learning, active learning, inquiry based learning, and ICT) and who is most entitled of learning could have a strong effect on the value of our lives – those who had struggled in school might have flourished if the ideas of beneficial applications had already been utilized in classrooms; moreover, if they were given, even the students who left good marks in traditional learning settings might have been able to improve their expertise, understanding, and view towards learning which could have greatly increased their attainments (Bransford et al., 2000). The core principle of current pedagogical argument is that different types of learning target necessitate different instructional methods; thus, as Bransford, Brown, and Cocking (2000) claimed, those recent aims for education demand innovation in learning opportunities for those learners.

Although many schools still remain providing the “factory-style learning”, some schools are shifting their teaching and learning philosophy, paradigms, strategies, and values to more non-traditional practice (OECD, 2013, 2015; Osborne, 2013). Yet, there are many obstacles to overcome in order to put those details into practice: for example, few schools, educators, and stakeholders, by some means, grew attention to employ modern buildings with modern furniture which merely focuses on architectural meanings, but quite distant from revising instructional practices (Broodryk, n.d.). Furthermore, issues that educators around the globe currently face are to ensure time for learning and focus of its opportunities (Elliott & Bartlett, 2016). To implement so called Innovative Learning Environment and change traditional practice to more 21st century appropriate, not only educators but also learners, parents, communities, and educational authorities must reconsider the status quo of our form of education.

## Significance of the Study

As OECD (2013) pointed out that “schools have traditionally been relatively closed institutions” (p. 187) which could be a considerable obstacle when reshaping the current form of education. Thus, in order to breakthrough the “one size fits all” (OECD, 2013, p. 189) type of education, it is essential to recognize what are ways to innovate learning environments and how schools could actually implement them. Through a case study with KAIS International School – a small-scale international school in Tokyo, Japan – along with theoretical knowledge, this study attempts to serve a role as an introduction to this modern, fairly new domain of education research.

To understand “learning”, understanding learning environment is crucial since it is thought to be one of the most important contributing factors for pupils’ learning – scientific comprehension of learning is comprised of various factors such as teaching practice, processes of learning, sociocultural features, and learning environments (Bransford et al., 2000). The environment where children learn could both promote and regulate their learning (Bransford et al., 2000). Moreover, according to *How People Learn: Brain, Mind, Experience and School*, “new developments in the science of learning raise important questions about the design of learning environments – questions that suggest the value of rethinking what is taught, how it is taught, and how it is assessed” (Bransford et al., 2000, p. 131).

Previous research of the concept of Opportunity to Learn (OTL), index of quality learning for students, and Innovative Learning Environment (ILE), a learning environment equipped for 21<sup>st</sup> century, revealed that quality and quantity of OTL differ school by school based on various factors, and it is greatly related to learning experience of students (Gillies & Quijada, 2008; Cleveland, 2011; Osborne, 2013; OECD, 2013). ILE, moreover, is believed to

be a suitable learning environment for 21st century through promoting various distinctive learning opportunities unlike traditional form of schools (OECD, 2013).

Importance of discussions regarding innovate learning settings is clear. ILE has a wide capacity to establish a circle of learning within students in order to change the status quo of excessive “one-way, transmission form of teaching and the absorptive, passive form of learning” (OECD, 2013, p. 189). Hence, it is necessary to deeply look into the aspect of environment in order to fit our views of teaching and learning into 21st century standards. Emergence of new technology, demands for today’s society, variety of programs, aspiration of applying new pedagogical methods, which make children as the center of learning and culturally responsive, brings new opportunities and “objectives of promoting effective learning and adaptation (transfer)” (Bransford et al., 2000, p. 246) – this is why it is so vital to study ILE and OTL through the same lens.

### **Objectives of the Study**

While exploring the shared definitions and values between OTL and ILE, the main objective of the study is to investigate a role of ILE in learners’ OTL. By closely looking at the sample school, it aims to analyze the following research question.

**Added values of the study.** Research indeed has been done on each concept, and understanding both concepts is crucial for reconstructing our current educational process to prepare learners for today’s world. Previous studies regarding OTL revealed different levels of opportunities for learners and how important it is to expand them in order to provide necessary and appropriate skills for 21st century; and previous studies regarding ILE explored how this type of learning environments differentiate themselves from more conventional type of schools. However, as Wilson, Madjar, and McNaughton (2016) claimed,

there are only few studies done by applying the concept of OTL to look at learning settings even though several research have stated the relationship between learning environment and OTL (Duncanson, Volple, & Achilles, 2009); in consequence, this study dedicates to widen this particular subject and activate potential discussions. To put these two concepts together will not only add depth to the existing studies and a new scope of pedagogical research, but also help construct ideas in order to put theories into practice for creating 21st century appropriate learning environments.

### **Research Question**

Closely looking at KAIS International School, the study aims to determine *the role of an innovative learning environment for students' OTL* through an explorative study at an international school in Japan.

### **Underlying Assumptions**

Considering similarities in the features of ILE and OTL together with the findings from researchers and educators who have engaged in analyzing these concepts (e.g., Gillies & Quijada, 2008; Duncanson et al., 2009; OECD, 2013, 2015), which details will be specifically described in the section of literature review, my assumption for the question is that the innovative learning environment like KAIS International School gives an importance to learners' OTL since innovative learning environments seemingly contain more complex dimensions of opportunities for students while this type of environments try to fulfill different objectives in teaching and learning in comparison to the traditional form of learning environments, which leads to more intricate and variety in opportunities for students' learning.

With the aim of examining the question, three different perspectives are especially

investigated: (a) how students perceive their OTL at KAIS International School, (b) how teachers recognize OTL for students at KAIS International School, and (c) how school principal recognizes OTL for students and teachers at KAIS International School to understand how they perceive opportunities through different angles. I assume that more complex and delicate OTL could be identified in ILE: being aware of how teachers attempt to provide quality OTL to students through ILE and how students feel their experience at the school are crucial in order to come to a conclusion for the research question. Therefore, the question will be considered through different perspectives.

### **Theoretical Background**

We all could agree, in some degree, that education has continually been one of the most important global topics to consider. Various qualitative and quantitative studies explain the significance of rethinking and redesigning current learning environments including pedagogical strategies and learning spaces. In this section, theoretical background is constructed and explained through reviewing vast variety of literatures: defining OTL and ILE, introducing previous studies and their outcomes, and presenting how those two concepts intersect.

#### **What is Opportunity to Learn (OTL)?**

As Hewlett (2012) claimed, just being in school and sit in class certainly do not promise students to master even the very essential skills. It is crucial to consider how to maximize their learning by giving adequate opportunities. For this purpose, conception of OTL needs to be discussed thoroughly.

Though its original composition was quite simple and straightforward, the definition of OTL has been evolving ever since the concept became a topic to be explored in

the field of education research. As OTL research continues, recent concept of OTL holds more complex and delicate factors (“ingredients”) from quality resources to conditions of schools and programs (Banicky, 2000) since our needs, demands, expectations, and desires not only in education but also our society have dramatically changed from 60 years ago when OTL first received attention. For this study, it is extremely crucial to fully recognize what the most recent indicators for quality OTL elements are in order to comprehend the different levels of opportunities that pupils could access to. In fairly recent studies, the following elements of OTL were commonly confirmed and defined as more modern and intricate aspects of OTL for students – together with the initial interpretation of OTL, which will be defined later, they are the great indicators of quality learning (Gillies & Quijada, 2008).

**More recent definitions of OTL** include:

**Qualified teachers.** To have qualified teachers, indeed, is a fundamental segment of students’ opportunities to learn. According to Holzkamp (1995), teachers are responsible for initiating rich moments for students’ learning. Thus, they should be able to foster students’ achievement and enhance equal opportunities in the system of education (Schrittesser, Gerhartz-Reiter, & Paseka, 2014). Not only maintaining the quality work but also improving it through constant teacher professional development activities is also a crucial point for teachers. According to Banicky (2000), quality professional development program is one of the factors associated with OTL. In fact, USAID addressed the importance of the area of constant professional development (Gillies & Quijada, 2008). Learning should also happen to teachers since it eventually leads to substantial OTL for students. As Elmore and Fuhrman (1995) explained, “the emphasis on professional development raises a final set of explanations for the limits state face in influencing schooling: teaching is essentially a

professional endeavor, whose success depends mainly on the knowledge, skill, and judgment of teachers, not on external mandates” (p. 9). Therefore, educators must keep growing as well as learners, and for this purpose, professional development should be spread over time and inspire teachers’ learning community to progress (Bransford et al., 2000).

**Safe learning environment.** According to Kinney (2009), safety is intensively linked to school climate. Learners first, before they can actually learn, need to be certain of their learning environment being secure not only physically but also emotionally. Some signs of secure and safe learning environment climate could be seen in: (a) educators who support all of their learners, (b) healthy relationship between teachers and students, (c) thoughtful and welcoming attitude among students, (d) clean and organized classrooms, and (e) students enjoy learning via stimulating projects and activities (Duncanson et al., 2009). Learning environments, which support pupils to think, develop initiatives, and be able to individualize own learning, are necessary for OTL (MAEC, 2008).

**High quality learning resources.** Learning materials do not only limit to books or something tangible, but also online resources including platform for teachers and students to communicate remotely, pedagogical games, and lecture videos – materials which stimulate and support learners’ creativity, innovation, interests, and most importantly, learning (Duncanson et al., 2009; OECD, 2015). These intangible resources, additionally, increase learners’ flexibility as well as autonomy (OECD, 2015). Flexibility allows learners to have more opportunities to be responsible and self-governing own learning (OECD, 2013; Harris & Johnson, 2001).

**Disciplinary atmosphere and school climate.** Classroom climate is one of the most significant aspects of instruction quality (Elliott & Bartlett, 2016). There are quite few

studies which specifically dedicated to school and classroom climate: Creemers and Reezigt (1999), for instance, listed several factors which relate to classroom climate such as physical settings of the institution, social structure and well-arranged environment in the institution, and high expectations on students' learning outcomes. Janosz, Georges, and Parent (1998), furthermore, scrutinized the elements which form day to day interactions among students, teachers, and their communal environment to understand how these elements contribute to the climate of classrooms. Duncanson, Volpe, and Achilles (2009) also agreed that positive student-teacher relationships create healthy school climate. Social cognitive theory by Albert Bandura has influenced various international researches regarding this field (Aldridge & Fraser, 2000; Majeed, Fraser, & Aldridge, 2002; Khalil & Saar, 2009). Moreover, teachers' classroom management skill is a crucial key to form disciplinary atmosphere and it strongly ties to students' accomplishments (Santibanez & Fagioli, 2016).

**High expectations for students' learning.** In 1996, Sammons and colleagues statistically analyzed and discovered 11 prominent factors which correlate to effectiveness of school: one of the 11 factors was high expectations. Additionally, to support their data, Barratt (1998) classified the distinctive necessities of young learners who are in their middle years of schooling: the list includes "rigour" which Barratt described as "taking on realistic learning challenges in an environment characterized by high expectations and constructive and honest feedback" (p. 55). Expectations, however, should be shared with all contributors like teachers, students, and their parents as well as bodies of school governance since "clear, shared demanding expectations for learning are integral to equality of opportunity and a coherent teaching profession" (OECD, 2015, p. 31). In the same literature from OECD (2015), it is stated that high expectations are vital for successful learning. For this, therefore,



educators need to make their expectations well defined for learners (OECD, 2013).

**Instructional practices.** “Purposeful tasks offer a vehicle for students to learn” as Walshaw (2012) described (p. 425). Surely, more time spent working on educational tasks generally relates to higher acquisition of learners (Aaronson, Zimmerman & Carlos, 1998); however, how intellectually creative and constructive the time spent is heavily depending on traits of school and classroom that teachers create (Santibanez & Fagioli, 2016). For example, providing chances for the first year medical students to participate in problem-based learning resulted in greater understanding of medical issues comparing to the learning opportunities through traditional lecture style classes (Hmelo, 1995). Thus, as recent OTL defines, the act of only focusing on quantity of time students spend for learning certainly does not guarantee its effectiveness. Indeed it takes time to practice and comprehend a subject matter; however, *how* learners actually use their learning time is a priority matter. For that, how learning environments support them observe their own learning in order to look for adequate feedback, proactively analyze own learning strategies, and being aware of current level of comprehension is essential (Bransford et al., 2000).

Additionally, grouping formats of instructions are equally important and have statistically significant effect on students’ learning and achievement (Kurz, 2011). As Elliott and Bartlett (2016) also claimed, grouping formats and group size of instructions are another crucial features of quality instructions. Pair or/and small group based instructions have statistically strong effect on learners (Elliott & Bartlett, 2016).

***Clear instructions using appropriate and various strategies as well as adequate feedback.*** OTL helps students to scaffold through quality teaching using purposeful tasks and conceptual tools such as visual demonstrations (e.g., pictures and stories) which assist

cognitive development of learners (Walshaw, 2012). Contexts used in instructions should be relatable to real-life circumstances, stimulating learners' engagement, and visualizing possible usage of knowledge (Walshaw, 2012). Clear and quality instructions are essential to students' learning as Bloom pointed out in 1980, because "students cannot actively engage in the learning if the instruction is poor and/or they are unable to comprehend what is being taught and what they are to do" (p. 340).

One thing to reduce the speed of student learning is restricting opportunities to access support from teachers and classmates in order to recognize how to improve their activity by receiving constructive feedback (McNeil, 2008). According to *How People Learn: Brain, Mind, Experience, and School*, with the aim of learners to achieve insight into their deeper learning and understanding, constant feedback is essential: "students need to monitor their learning and actively evaluate their strategies and their current level of understanding." (Bransford et al., 2000, p. 78). Feedback has been recognized as vital component for successful teaching and learning – the feedback should be multidimensional, which means that feedback should be given in self-regulation level for guiding students to assess themselves (metacognitive approach) and to be aware where, when, and how to utilize their knowledge (Bransford et. al., 2000; Hattie, 2012). In fact, Walberg's study (1986) revealed that corrective feedback by teachers and/or peers had highest effect size (.97) out of the other variables of quality instruction. Moreover, feedback and its opportunities should take place constantly and continuously since it is "most valuable when students have the opportunity to use it to revise their thinking as they are working on a unit or project" (Bransford et al., 2000, p. 141).

***Learner-centered instructional practices.*** In order to make instructional practices

more learner-centered, teachers must make an effort to learn what pupils think regarding problems they are handling, discuss about students' mistakes delicately, and provide students places to keep on thinking which allow them to rearrange their thoughts (Bell, 1982). Those teachers who are able to create a learner-centered environment should understand the value of developing cultural and theoretical knowledge, belief, skills, and character that learners bring into classroom (Bransford et al., 2000). Learner-centered instructional practices should pay careful attention to students' strengths, needs, and curiosity as well. This type of learning environment adopts formative assessment for supporting learning (Shute & Becker, 2010). Many times, learner-centered instructions involve collaborative learning through supporting engagement, innovation, management, and personalization (Rubin & Hebert, 1998). Additionally, as it was stated earlier, small size classes help learners' engagement and high achievement (Elliott & Bartlett, 2016).

**Meaningful interactions in classroom.** Walshaw (2012) illustrated it as “a classroom environment in which the teacher orchestrates thoughtful discussion around meanings and understandings makes a contribution to the enhancement of student learning” (p. 425). Gee (2001) also confirmed in his study that in-class verbal communication among teachers and students forms not only the ways of students' learning but also the learning environment itself. Class discussions should also be utilized to support learners' development of skills as well as “independence and self-regulation” (Bransford et al., 2000).

**Ways of assessment.** The significant tenets of assessment, according to Bransford, Brown, and Cocking (2000) from the Committee on Developments in the Science of Learning from the National Research Council, are to “provide opportunities for feedback and revision and that what is assessed must be congruent with one's learning goals” (p. 139 - 140).

In order to fulfill those purposes, it is vital to recognize two different approaches of assessment – formative and summative assessment. Firstly, formative assessment is given during the process of work via direct feedback from teachers and peers in class in order to improve quality of work with accurate understandings of present conditions. It is effective to improve the quality of learning as well as the outcomes since this type of feedback is given during the process of work (Shute & Becker, 2010). For those reasons, formative assessment is particularly preferred as OTL. In order to provide constructive feedback, it is necessary to make sure that given evaluation is attentive to both strong and weak points of individuals to adjust class materials and activities based on learners' needs so that they are able to “optimally realize their potential” (OECD, 2013, p. 173).

Summative assessment, unlike formative assessment, focuses on the end product which means it determines what learners have learnt at the end of one unit or series of units. This type of assessment, for instance, contains unit exams or even something larger scale such as national level assessment tests at the end of school year – those meant to simply evaluate students' acquisition based on right or wrong answers (Shute & Becker, 2010).

**Sufficient physical spaces.** Space is also one significant element of OTL: the opportunity could be different depends how teachers make use of the classroom space – they have power to create the environment more positive for teaching and learning (Duncanson et al., 2009). Furthermore, physical motions (e.g., walking) in classroom actually increase academic development as stated in the literature *Finding Time and Improving Students' Opportunity to Learn by Planning Space: A Case Study* (Duncanson et al., 2009). In fact, enlarging learning space allows curiosity and innovation of students to emerge (Achilles, 1999). Moreover, Sousa (2006) and Sprenger (1999) also claimed that movement positively

influences pupils' interactions and encourages active learning which develop them as life-long learners. The literature from Duncanson, Volpe, and Achilles (2009) also emphasized the significance of space which "allow students to pursue their own interests" (p. 4). Another empirical study from Georgetown University discovered that students' test scores raised up to 11% by ameliorating learning environment (Partnership for 21st Century Skills, 2009). Hence, it is extremely important to consider physical space for learning since "school building itself should inspire intellectual curiosity and promote social interactions" (Partnership for 21st Century Skills, 2009, p. 7).

**Family and community involvement.** It is almost common understanding among researchers that family involvement is one of the crucial facets to enhance pupils' learning (OECD, 2013, 2015; Bransford et al., 2000) – not only a quality school and its policy, but also supportive community and home environment assist quality teaching and learning practice (Tikly, 2011). As well as other researchers, Dowd, Friedlander, and Guajardo (2014) pointed out the importance of considering "how learning is used, promoted, or even inhibited in the daily lives of children" when studying OTL (p. 107). They also questioned if all the learners' opportunities to learn should or even possible to be available only inside of school; thus, they firmly suggested, in order for students to learn new skills, to extend opportunities to daily, weekly, monthly, and even annual level so that they have more opportunities to use those skills outside of school.

**Integration of technology.** Integration of technology into learning has become a vast topic in recent educational research and even in actual school settings. Technology could make education both individualized and collaborative – according to Bransford, Brown, and Cocking (2000), it forms "interactive learning environment" which promote collaborative

work in order to solve conceptual problems (p. 182): it could happen not only in class but also outside of classroom while technology allow learning to be ubiquitous. Technology also helps students visualize their work and activate discussions in class, which support reflecting learners' thoughts, paying attention and being critical with own work (Bransford et al., 2000). Formative assessment could benefit from technology since it visualizes learners' work and make it easier for both teachers and students to recognize how well the contents covered in class were grasped by students (Bransford et al., 2000). It gives learners great opportunities while "technology provides access to real-world data, tools, and resources, and can help students link learning to life" (Partnership for 21st Century Skills, 2009, p. 17). OECD (2013) also stated that technology could promote inquiry-based learning by providing a platform for especially a single and groups of learners.

However, many studies have warned that technology has to be used properly so as to enhance students' learning and achievement; therefore, it has to be used with extra considerations (Cognition and Technology Group at Vanderbilt, 1996; President's Committee of Advisors on Science and Technology, 1997; Dede, 1998; OECD, 2013, 2015). If it is successfully applied into practical learning, it could assist students as well as teachers to develop proficiency required for 21st century (Bransford et al., 2000). For this, Mayer (2010) pointed out that technology integration should always keep itself to be learner-driven instead of technology driven.

Hence, the definition of OTL certainly does not limit to the basics but includes many complicated factors especially in the modern society. All those factors mentioned above associate with opportunities for students' quality learning. Recent research outcomes

have suggested that those more delicate features of OTL are discovered to “significantly predict” attainment of students (Santibanez & Fagioli, 2016, p. 4). In fact, as Santibanez and Fagioli (2016) confirmed, various researchers have declared through their studies that OTL strongly ties to learners’ academic performance (Schmidt, Cogan, Houang & McKnight, 2009; Montt, 2011; Schmidt, Cogan, Houang, & McKnight, 2011; Schmidt, Zoido, & Cogan, 2014).

### **Fundamental Elements of OTL**

OTL standards still take into an account other, more fundamental elements which form the base of OTL such as availability of educational materials, maintaining certain hours of instructional time in the year, both teachers and students are present when they are supposed to be, teacher-student ratio is kept manageable volume (below 1:40), learning materials are available for all and each one of students for everyday use, the school location being convenient to all learners, and school being open when it is supposed to be (Gillies & Quijada, 2008). By looking at these definitions, it is very clear that many educational institutions fulfill those very basic conditions; however, some so-called developing countries struggle meeting even those very basic opportunities according to the previous studies from OECD and USAID. In fact, many studies relating to OTL in schools focus on developing nations to see how OTL affects quality of learning and its outcomes (Moore, DeStefano, & Adelman, 2012; Gillies & Quijada, 2008; Santibanez & Fagioli, 2016). Moreover, myriad schools remain the same OTL and do not strive to exceed the basic line of opportunities regardless of their economical status of the countries. OTL is a concept which constantly develop and expand its definitions along with the advancement or/and historical shift in our society; hence it is problematic to stop expanding opportunities for both teachers and students

since it could interrupt the entire progress of learning.

### **Evolution of OTL**

The original practical definition of OTL was introduced by John Carroll in 1963: the sum of time spent for learning which was decided by a program or school agenda – it purely relies on the amount of time students are allowed to have for learning. He continued to refine definitions of OTL and claimed that its equality would not be achieved if the quantity of instructional time were not increased in order for students, who are least familiar with the curriculum content, to comprehend it. Concepts and indices of OTL have been evolved more instructionally susceptible by various researchers so that they could examine impacts on learners' achievement: an early study regarding time and learning at school done by Borg (1980) pointed out that “such indices have been based on the proportion of allocated time dedicated to instruction (i.e., instructional time), the proportion of instructional time during which students were engaged (i.e., engaged time), or the proportion of engaged time during which students experienced a high success rate (i.e., academic learning time)” (Elliott & Bartlett, 2016, p. 3). These ideas were still heavily concentrated on the theory of Time-on-Task by Carroll; however, as more research progresses, its approach has shifted to a different aspect, which was focused on intersection of content – how the content of lecture intersects with the content of examinations (Husen, 1967; Anderson, 1986; Elliott & Bartlett, 2016). The basis of OTL standards, according to a report from USAID written by John Gillies and Jessica Jester Quijada (2008), is extremely clear to the point – “it is unfair to hold students responsible for meeting high academic standards unless they have been assured of an opportunity to learn” (p. 3). Thus, if educational institutes miss instructing learners the right information which will be assessed, significance of “accountability and performance



standards” will be extremely limited (Gillies & Quijada, 2008, p. 3). Since this aspect of OTL, the content coverage, became a focus in the field of study, OTL plays an important role for equal distribution of resources among schools and regions, and assurance of their quality for achieving the standards (Venezia & Maxwell-Jolly, 2007). Especially with the relation to the US legislation of No Child Left Behind (NCLB) in 2001, schools in the United States are required to outline their planned schedule considering grades and subjects with the set of precise academic standards (Elliott & Bartlett, 2016) – due to the impacts of these social and academic events, many researchers were involved in examining OTL, particularly regarding academic content standards and its overlapping to the curriculum to visualize alignment of application (Porter, 2002; Roach, Niebling, & Kurz, 2008).

Though OTL had developed its standards overtime, researchers and educators additionally thought through features of quality instruction to initiate OTL: in recent research, outcomes from meta-analysis have been utilized to recognize detailed pedagogical practices which influence attainment of learners (Slavin, 2002). Though it is missing explicit empirical data, Floraline Stevens introduced the initial conceptual framework of OTL in 1996 which is constructed with four components: “(a) *content coverage* and (b) *exposure* (i.e., Time-on-Task), (b) *content emphasis* (i.e., emphasis of cognitive processes), and (c) *quality of instructional delivery* (i.e., emphasis of instructional practices)” (Elliott & Bartlett, 2016, p. 3). This framework has attracted various researchers (Abedi, Courtney, Leon, Kao & Azzam, 2006; Herman & Abedi, 2004; Wang, 1998) to work even more intensively in the topic of OTL. Importantly, according to Elliott and Bartlett (2016), “Stevens clarified OTL as a *teacher effect* related to the allocation of adequate instructional time covering a core curriculum via different cognitive demands and instructional practices that can produce

student achievement” (p. 3). Alexander Kurz (2011), one of the leading researchers in the field of OTL, analyzed related literatures and advanced the form of the model of OTL: all three factors – time, content, and quality – must intersect to provide successful OTL (see Figure 1).

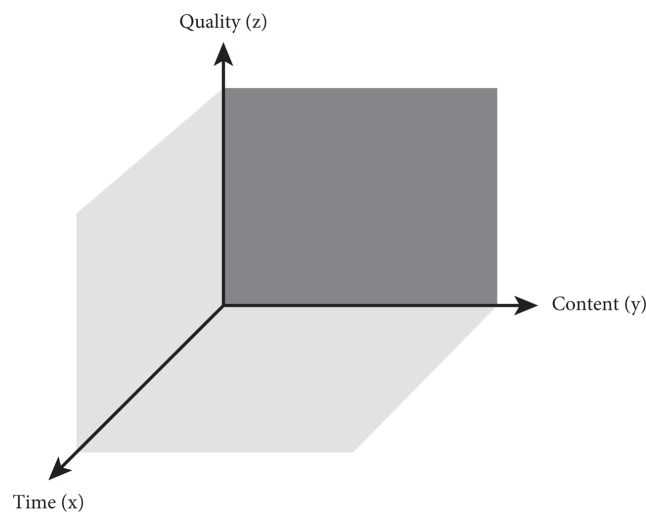


Figure 1. Conceptual model of OTL illustrated by Kurz (Elliott & Bartlett, 2016, p. 4)

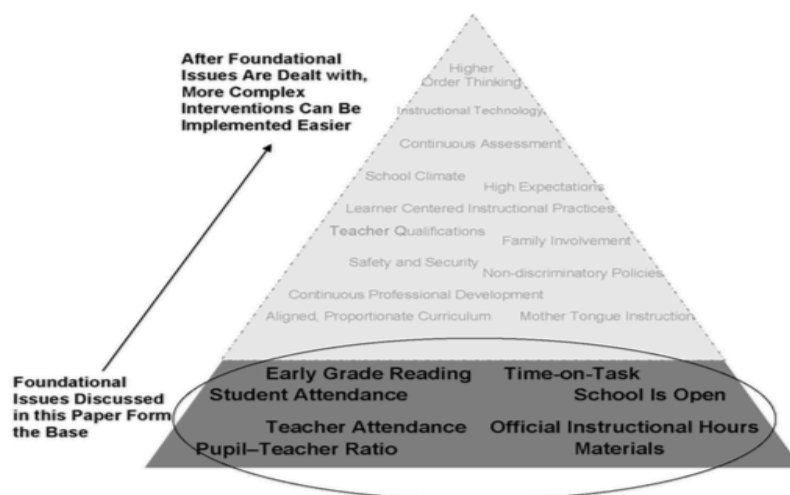
Source: Kurz, A. (2011). Access to what should be taught and will be tested: Students’ opportunity to learn the intended curriculum. In S. Elliott, R. Kettler, P. Beddow, & A. Kurz (Eds.) *Handbook of accessible achievement tests for all students: Bridging the gaps between research, practice, and policy*.

In this model, teachers must use class time to cover the contents which were planned in advance to fulfill the academic standards via applying instructional method that delivers variety of cognitive development, pedagogical practices, and arrangement of groups (Elliott & Bartlett, 2016).

### Previous Research in the Field of OTL

OTL has been studied by various researchers for a long period of time. They have agreed that OTL enhances learners’ possibilities to be connected to finest instruction as well as learning environment (Carroll, 1963; McDonnell, 1995; Guiton & Oakes, 1995; Schmidt & McKnight, 1995; Wang, 1998; Herman, Klein, & Abedi, 2000).

Because of its quantified factors, many of the OTL-related research dedicated to either the aspect of socioeconomic or national development. A large international study done by Educational Quality Improvement Program 2 (EQUIP2) of USAID went deeper on the angle: researchers argue that students from developing countries struggle to achieve satisfying results due to lack of OTL (Gillies & Quijada, 2008). Many times, shockingly, those students do not even meet the minimum level of OTL (e.g., insufficient school hours, inconsistent school opening schedule, low attendance and punctuality rate of both teachers and students, inadequate materials for classes and homes, minimal time on task in class, and lack of ability to read well). Gillies and Quijada (2008) from the Academy for Educational Development (AED) illustrated the levels of OTL as a pyramid form – this image explains what are the fundamental opportunities which follow on the bottom layer of the pyramid, and what are more complex and delicate features which are placed as the higher level of OTL in the pyramid (see Figure 2). According to the figure, it is quite obvious that some of the OTL criteria are easier to achieve than the others. More complex and delicate they get, more difficult to achieve; yet, as it was said, still a large number of students encounter difficulties to access to the simplest conditions (Gillies & Quijada, 2008).



*Figure 2. OTL pyramid (Gillies & Quijada, 2008, p. 5)*

Securing those minimum opportunities would lead to the higher level of OTL which is more difficult to achieve – in other words, fulfilling the bottom layer is unavoidable in order to achieve further opportunities to learn for students. It is evident that having almost no foundation for OTL results in poor educational attainment; thus, improving those minimum OTL could produce large improvement in students' learning (Moore et al., 2012).

As it was mentioned earlier, socioeconomic status (SES) is another focus that many OTL studies have examined since it is a convincing index of learners' differences in accomplishment (OECD, 2013): Schmidt and colleagues (2015) claimed that OTL contributes to intercede the correlation between students' attainment and SES; however, since each school provides different level of OTL, especially students who hold higher SES are given greater opportunities. This circumstance creates attainment gap between socioeconomically rich and poor students. Darling-Hammond (1997), for example, found that colored low-income learners in the United States seem to have less access to pedagogical resources, academically challenging programs, and quality instruction comparing to those who have opposite SES (Wilson et al., 2016). In fact, research data reveals that students of color in economically challenged community are given different kind of materials which actually cover narrower variety of texts contrast to the others (Applebee, 1993). Moreover, some studies have explored regarding non-native English speakers (e.g., immigrants with no English speaking conditions) in the United States. They face more difficulties in order to master contents, which is necessary to enter higher education, simply because of their language barrier – they cannot comprehend the contents as much as native English speakers do (Callahan, 2005).

Duncanson, Volpe, and Achilles' case study (2009), however, emphasized learning space to improve learners' OTL. The study looked at space as an imperative ingredient of educational system that also connects to learners' opportunities to learn. It gives an importance to the field of OTL since space could be designed with the intention of promoting more opportunities. Size of the space, first of all, matters to learning: according to Achilles (1999), enlarging physical capacity could activate students' curiosity and empiricism. Time also plays an important role – together with space, the “shared dynamic” influences cognitive learning as well as learners' social interactions (Duncanson et al., 2009, p. 12). Enough space, moreover, allows additional movements of individuals which help finer social interactions and foster active learning that prepare students as life-long learners (Sousa, 2006; Sprenger, 1999).

To sum up, Banicky (2000) claimed that especially these two reasons make OTL extremely crucial matter: (a) its inequality among students, which brings some learners academically disadvantaged, and (b) its positive influence on students' achievement. Both statements clearly depict the results of those previous studies mentioned above.

**OTL as a research framework.** Though the standards of earlier OTL seemed quite straightforward, its addition to recent definitions made OTL more composite concept – those definitions intersect and function together to positively influence on learners' opportunities (Wilson et al., 2016). The classical way to measure OTL has been relying on more identifiable factors such as number of books which learners are able to access, hours of classroom lectures and their content, academic conditions of teachers: this method has been employed for the large scale cross-national analysis like PISA (OECD, 2013). Certainly the PISA study of 2012 implemented the idea of OTL to question about educational equality and

the circumstances which add integrity in students' academic outcomes (OECD, 2013).

Some studies, however, encourage slightly different focus in the approach which “based on a situated or sociocultural view of knowledge and learning” (Gee, 2008; as in Wilson et al., 2016, p. 3). According to Gee (2008), providing learners the same information does not mean that they received equal OTL, but rather the learning environment provides them “similar capacities of action” (p. 82). This is especially a substantial statement since the thesis study concentrates on learning environments and their role of endorsing variety of OTL. Furthermore, this is why classroom observation was adopted as one of the investigation methods in order to identify not only the learning contents and the length of time spent on learning them, but also to examine instructional methods practiced in classrooms (Stevens, 1993).

### **Summary of OTL**

In this context, I define OTL as “ingredients” for quality learning experience for pupils. More OTL the learning environment provides, better learning condition students have to foster higher order learning. The definition of itself has expanded from basic components to more complex and delicate elements overtime while our society is dramatically changing in terms of what it could offer and what it demands in people.

### **Firstly, What is Traditional Learning Environment?**

It is crucial to be aware of, when looking at learning environments, the present circumstances of teaching and learning and their issues. Though there is no concrete definition of what exactly a traditional learning environment is, researchers and educators have quite similar explanations and clues to some extent. Cleveland's study (2011) for example, explained that traditional classroom design which was born and spread during

Industrial Revolution (approximately from 1760 to 1840) is kept being utilized ever since: delivering information of mainly the primary academic subjects like mathematics, science, and first language.

**Teacher-centered learning.** The traditional learning environments using traditional pedagogical methods are usually teacher-centered settings where learning procedures are outlined and restricted through “cookbook steps of activities and demonstrations” by teachers (Harris & Jonson, 2001, p. 1): simply focus on the content of materials and verbalize the information, check assignments and in-class tasks, and constantly rushing to finish the required contents in each class. Students, in contrast, usually obligated to sit still during the whole class period and silently listen to what the teacher says so that they can memorize and digest information from the instruction (Osborne, 2013, 2016; August, Hurtado, Wimsatt, & Dey, 2002; Barr & Tagg, 1995; McCarthy & Anderson, 2000; McGregor, 2004). Often times, they are not permitted to discuss with peers while working on class assignments – those are *instructivist* teaching practices also referred to as *teacher-centered learning*, which learners are the passive receiver of information (Schrittemser et al., 2014; OECD, 2009, 2013, 2015).

**Standardized format.** OECD (2013), moreover, described traditional learning environments to employ standardized class and room size which are extremely segmented: standardized curriculum, standardized structure of timetable, and standardized methods of teaching and classroom management done by a single teacher. Because of these features of traditional learning environments, our schools have been rather conventionally closed societies (OECD, 2013). This standard of traditional schools have constructed the power of mass teaching (“whole-class teaching”) as a social aspect of learning, and individualized

learning has utterly limited consideration in this aspect (OECD, 2013).

**Model of “one”.** Our education through 20th century has been compared to an “assembly line” (Bransford et al., 2000; Hood, 2015): as if children came in to the manufacture line, separated by age, and transferred from class to class through a scheduled series of standard procedures exactly like a conveyor belt. The conveyor belt is built based on a model of “one” – “one teacher, teaching one subject to one class of one age using one curriculum at one pace, in one classroom for one hour” (Hood, 2015, p. 13) like what OECD statement mentioned earlier. Numerous researchers have argued similar statement overtime (Bennett & LeCompte, 1990; Callahan, 1962; Kliebard, 1975) that the mass production pedagogical pattern of the early 1900s only focuses on structuring efficient classrooms and educational processes. This metaphor certainly illustrates what traditional learning environment is like.

**Some outcomes of the traditional learning environments.** Some researchers and individuals who are involved in the field of education have observed some negative consequences of this form of teaching and learning. Cleveland (2011) claimed that it may reduce learners’ opportunities to learn unlike learning through *constructivist* approaches which is a complete opposite learning theory. Constructivist, which the attention is likely to be switched from a teacher to students: students are advised to be actively engaged with their own learning process, and teachers’ role is being a coach to support learners to deepen their understanding and improve learning experience (Cleveland, 2011). Teachers and students in the constructivist environment as a whole have different view towards teaching and learning comparing to its instructivist environment (Cleveland, 2011; Broodryk, n.d.). Cleveland’s study (2011) revealed honest views of many head of schools – they admitted that learning



experience given by traditional lecture rooms weren't the same as their anticipated educational practices, and because of that, pedagogical progress of learners was held back. Additionally, they felt that those instructivist approaches did not succeed in students' engagement since such way of teaching and learning did not empower learners to initiate personal objectives and follow their true interests (Cleveland, 2011). Udovic, Morris, Dickman, Postlethwait, and Wetherwax (2002) alerted how traditional teaching practices may not offer learners the complete set of concepts which remains beyond school term as knowledge. One research also pointed out the insufficiency of traditional teaching and learning design in order to encourage students' self-regulation skills (DiBiasio & Jiusto, 2005).

### **Finally, What is Innovative Learning Environment (ILE)?**

Though some elements and concept of ILE have been touched on and discussed by several researchers and educational organizations, its explicit definition was originally introduced through a global study done by Centre for Educational Research and Innovation (CERI) of OECD. In fact, there was practically no clear description of ILE as a whole until OECD carried out the first phase of this ILE project in 2008. Since the project has thrived, myriad researchers and educators refer to OECD's interpretation regarding ILE in their studies (Schrittemser et al., 2014; Cleveland, 2011; Bocconi, Kampylis, & Punie, 2012; Blackmore, Bateman, O'Mara, Loughlin & Aranda, 2011). Therefore, this thesis research primarily adopted the explanations from the OECD study in order to define what ILE is. The definition of ILE in this section was taken from the OECD report from 2013. The initial purpose of this OECD project was to investigate how young pupils learn and under what kind of conditions and factors they might comprehend better – it intended to advise on teaching

and learning practice, leadership, and innovation by examining innovative and motivating form of education for pupils. The unique input of this project is to investigate various international cases of innovative environments and tactics in order to establish learning at different levels.

**Seven learning principles.** The early stage of the ILE project closely looked at the nature of learning through cognitive, emotional, and biological aspects in addition to examine the connotations for various operations in learning environments. The exploration led to seven interesting “principles” for instructing the outline of highly effective 21st century learning environments (Dumont, Instance, & Benavides, 2010; OECD, 2013, 2015). The following are the seven learning principles taken from OECD report (2013, p. 153 – 180):

- *“Learner centredness”*

The first principle depicts the significance of recognizing students as a main figure of educational ecosystem, support their lively engagement as well as sense of self-regulation.

- *“The social nature of learning”*

The second principle claims to be aware of the social aspect of learning, and importance of promoting teamwork and highly organized collaborative learning.

- *“Responsiveness to motivations and emotions”*

This is about teachers’ capacity to be well aware of pupils’ incentives and interests as well as their emotions which play an important part in their achievements.

- *“Sensitivity to individual differences”*

This states to be receptive to the differences in each learner counting their previous knowledge that students bring into classroom so that learning activities in class can be appropriately adjusted.

- “*Stretching all pupils*”

The fifth principle explains to create curriculum which positively challenge students with adequate amount of work.

- “*Assessment for learning*”

This points out the necessity of operating classes with clear expectations and applying sufficient evaluation approaches coherent to the expectations: to assist better learning, formative feedback should be emphasized. Assessment, moreover, “can be seen as the bridge between teaching and learning” (OECD, 2013, p. 173).

- “*Horizontal connectedness*”

Lastly, the seventh principle is about strongly encouraging horizontal connectivity across the field of subjects and knowledge along with the society and the extensive world.

Those principles present a precise framework for sincerely effective learning environments for 21st century. There is a necessity of emphasizing on processes that direct impact on quality of teaching and learning. This statement could be explained with regard to the highly significant concept “*proximal*” contradicting to “*distal*” in influencing achievement of learners: proximal factors such as student traits and classroom experience, which are closely connected to the pedagogical process, where as distal factors are related to more state or/and district level of government and institutions as well as school level of social demographics, policies, and culture (OECD, 2013, p. 17). According to Scheerens (2004), the outcomes of their integrations illustrated that more proximal factors lead to positive relationship to educational accomplishment and performance compared to more distal factors. From the statement above, it is quite clear that classroom level makes great impact on learning and school effectiveness – as OECD study confirmed, “teacher

effects” are significant elements comparing to “school effects” when considering pupils’ learning. John Hattie (2009), a well-recognized educational researcher who also studied school effectiveness, has identified some of the most influential practices on effective learning through meta-analysis: formative assessment, small-scale teaching, clarity in teacher instruction, student-teacher connections, adequately spaced environment, meta-cognitive approaches, creative curriculums, teacher professional development, and problem-solving method of teaching. All of the factors above, according to Hattie (2009), recorded above 0.6 in standard deviation and are actually employed by the participating schools of OECD’s ILE project. Those high impact factors create teaching and learning more “visible” and collaborative (Hattie, 2009).

In the study of OECD (2013), it is called “learning environment” as a concept of framing instead of “school” since the term gives an impression that proper learning should only happen in places called “school” even though the value, ways of learning, and a role of school are becoming more broad and in-depth instead of just “catering for only a portion of the learning needs of young people” (p. 19). The word itself does not project an image of learning organization but rather “educational institutions” which leaves more formal and bureaucratic impression instead of creating an environment which is holistically connected. Thus, ILE study prefers “learning environment” as a concept because “it allows consideration of environments that do not enjoy the underpinnings of a particular philosophical or educational approach” (OECD, 2013, p. 22). In this case, understanding of “learning environment” is a holistic concept that appreciates learning and its settings, which are the “eco-system of learning that includes the activity and outcomes of the learning” (OECD, 2013, p. 22). The successful learning environment, therefore, brings comprehensive

collective viewpoint – such ecosystem of learning permits the mixture of pedagogical approaches, environments, and experiences. This is one of the most distinctive features of ILE.

**Four key elements of pedagogical core.** The second component of the ILE project focuses on learners (*who*), teachers (*with whom*), content (*what*), and resources (*with what*) as four key elements of learning environment and how these interact to accomplish effective learning in innovative manners and be appropriate for the conditions of 21st century.

**Learners (*who*).** Learners are the most fundamental segment of pedagogical core since no learning exists if there were no learners. Learners, together with teachers, make learning happen and it is a key to recognize what they bring to learning environment including social and cultural assets, previous knowledge, interests, enthusiasm, level of self-efficacy, and such. These factors “critically influence everything that the learning environment might then seek to do” (OECD, 2013, p. 34). Thus, it is a pivotal aspect when constructing ILE: research has verified that students’ social, cultural, and upbringing experience as the key role to influence their learning. It is also shown in many case studies from OECD as well as Cleveland’s (2011) that arranging a class and/or school with wide range of age is one of the shared features of ILE across the world.

**Teachers (*with whom*).** Educators are required to be professional “orchestrators” of the modern and complex learning environments (Bocconi et al., 2012, p. 3 & 9; Walshaw, 2012). Innovative teachers do not necessarily mean that they teach with new and innovative methods but rather expanding the role to others who have particular experiences, knowledge, and impacts (e.g., other experts in specific fields, adults from the community, and peers in class). According to the case studies, it is often seen as a routine in many of the sample

schools. Involving parents and family members is a prominent factor of increasing the sense of community. Peer teaching, moreover, assists students' sense of belonging and being a part of constructing a relationship based on the shared values and understandings within the learning environment. Thus, teachers here signify people in the community who are involved in creating pedagogical ecosystem and understand the value of “guide on the side” not “sage on the stage” as a teacher (OECD, 2013, p. 114).

**Content (what).** Content should pay special attention to grow 21st century skills (Ananiadou & Claro, 2009; OECD, 2012; Rychen & Salganik, 2003; Scott, 2015; Shute & Becker, 2010). 21st century competences, according to OECD (2013), comprise the proficiency to employ “flexibly meaningfully learned, well-integrated knowledge in different situations and the ability to cope with the social, communication, and emotional demands of rapidly-changing environments” (p. 45) – for this to be fulfilled, creative, collaborative, entrepreneurial pedagogical approach along with digital literacy become crucial features. Erik De Corte (2010), the author of *The Nature of Learning: Using Research to Inspire Practice*, claimed the importance of enhancing learners' “adaptive competence” which, according to his definition, is “the ability to apply meaningfully-learned knowledge and skills flexibly and creatively in different situations. This is opposed to “routine expertise”, e.g., being able to complete typical school tasks quickly and accurately but without understanding” (p. 45).

One of the case study sites of ILE project, Lok Sin Tong Leung Wong Wai Fong Memorial School in Hong Kong, had summarized some of the most significant 21st century competences into the following four segments (OECD, 2013):

- *Collaboration as well as teamwork*

This does not apply only to students but also to educators. Sharing the principle of innovative learning among teachers, administrators, and principal to build the learning culture together. Collaborative learning among learners across different age groups is also a key factor.

- *Competency of problem-solving*

Increasing learners' capacity of problem-solving is extremely crucial not only to solve academic problems but also social issues.

- *Transferring knowledge to new situations*

Applying the knowledge that students acquired to various situations is a vital skill. Schools should work on teaching the learning values and attitudes including ways of thinking and communication – these are some of the important abilities to have in order to transfer knowledge.

- *Digital/media literacy*

Technology has become very closely tied to our society including schools. Technology brings infinite possibilities to teaching and learning. Innovative learning environments well integrate technology into their curriculum and educate learners adequate digital media literacy in order to be able to scoop right information from an enormous pool of data. Students need to build skills for involving with, absorbing, and creating digital media (Groff, 2013). Groff (2013) also stated that digital resources are related to various cognitive capacities, outlining three types of pedagogical approaches which depend on technology: (a) communication and collaboration in distance, (b) flexibility and accessibility of materials, and (c) creative audio/visual production which can be motivation for learning. Because our current society cannot be separated from the

existence of technology, it is also crucial for modern learning environments to deepen learners' digital/media literacy (Hall, 2013).

Interdisciplinary content, which is to strength learners' 21st century skills, helps integrating information into existing knowledge, and transferring to new and diverse subjects. In-class activities reflect on what students are learning and what skills they are constructing through a variety of classes and subjects. Innovations in the learning content should come from adopting skills, knowledge, capabilities, and values that were cultivated in the learning environment (OECD, 2013, 2015).

**Resources (with what).** ILE effectively utilizes digital resources such as ICT (Information Communications Technology) unlike traditional learning environments. Innovative resources also include facilities as well as learning spaces and their ways of use.

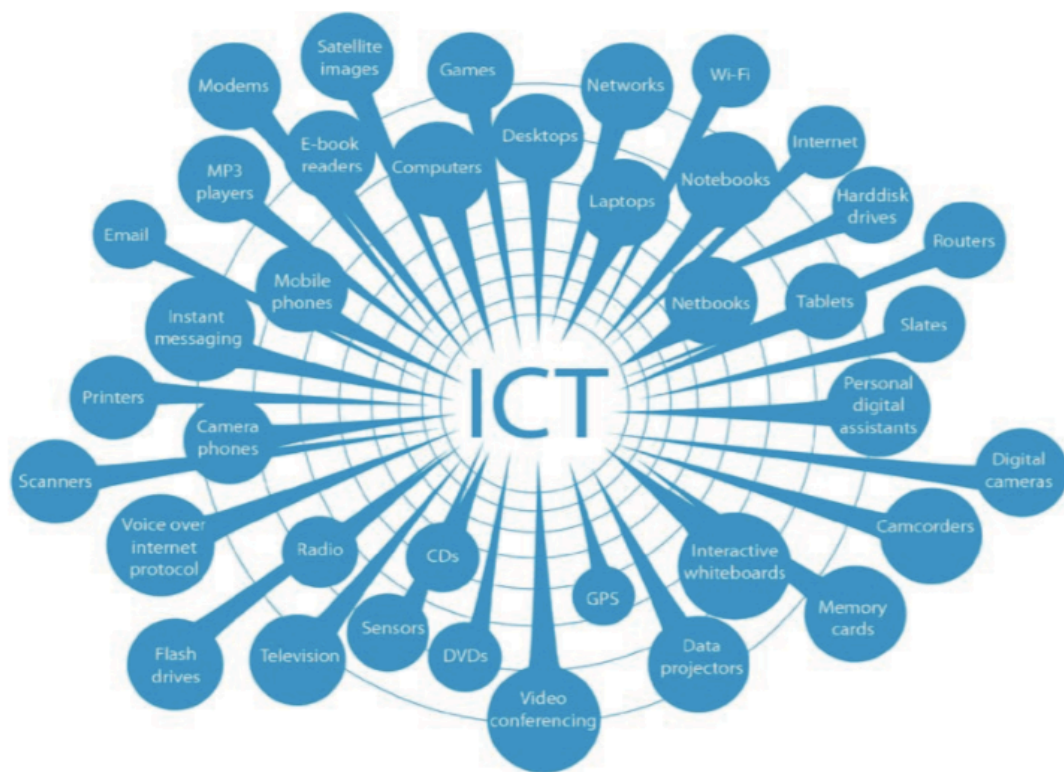


Figure 3. Innovations of ICT in learning environments (OECD, 2013, p. 55)

Source: UNESCO (2010). *ICT Transforming Education: A Regional Guide*



*Innovating the use of learning spaces.* The use and design of physical space and materials greatly influence the experience of teaching and learning: facilitate engagement and collaboration; motivate learners; individualize learning and feedbacks; allow bigger group work as well as small or/and individual work; create a wide range of connections among various subject matters; and value the nature of learning from social aspects (OECD, 2013, 2015; Osborne, 2013, 2016; Rudd, Gifford, Morrison, & Facer, 2006; MCEETYA, 2008). As Feinberg and colleagues stated in 1998, “space allocation, design, and the availability of materials convey messages of acceptance or rejection of individual interests and values, strengths, and capabilities, ethnicity, gender, and life style” (p. 30). To fulfill those implications for resources, as explained in the report of OECD (2011), innovative learning environments should:

1. Promote learning for students, professionals and the wider community through active investing, social interaction and collaboration.
2. Support a full range of learning and teaching strategies from direct explicit instruction to facility of inquiry to virtual connection and communication.
3. Support disciplinary and interdisciplinary learning.
4. Move beyond the simplicity of flexible open spaces to integrate resource rich, special purpose spaces with flexible, adaptable multipurpose spaces to provide a dynamic workshop environment for learning.
5. Support individual, 1-to-1, small group, and larger group learning.
6. Are age-stage appropriate.

7. Facilitate learning anywhere, anytime, by any means, through seamless access to ICT, distribution of learning resources for ease of access in learning spaces and accessibility beyond the traditionally defined school day.
8. Activate and invigorate learning spaces – indoor and outdoor.
9. Inspire participation in, and responsibility for, the learner's community.
10. Enable all aspects of the buildings, building design and outdoor spaces to be learning tools in themselves. (OECD, 2013, p. 58 – 59)

As Gifford (2002) mentioned with regard to learning settings, “amount and arrangement of space is very important for classroom performance and related behaviours” (p. 298). Open and flexible learning spaces can lead to positive results in pupils' learning if instructional methods are coordinated with the space (Gifford, 2002; OECD, 2013). In fact, a meta-analysis done by Davies and his colleagues (2013) revealed that physical settings have an impact on students' creativity and communication among teachers and students. Additionally, numerous studies concerning learning spaces (Beichner et al., 2007; Brooks, 2011; Brooks, 2012; Dori et al., 2003; Van Horne, Murniati, Gaffney, & Jesse, 2012; Walker, Brooks, & Baepler, 2011; Whiteside, Brooks, & Walker, 2010) have proven “increased opportunities for interaction with other students, more classroom discussions, more student-faculty private consultations, and better grades and test scores, compared to comparable classes held in traditional classrooms” (Granito & Santana, 2016, p. 2). Those guidelines presume the appearance of active learning with a variety of resources, environments, and educators; a combination of different teaching approaches including greater application of technology; and adequately flexible and personalized use of

learning spaces and infrastructure.

These four elements – *learners, teachers, content, and resources* – construct the basic “pedagogical core” and relationships of each element in specific ways create another layer around the core of learning environment. The organization of relationships especially emphasizes how students as well as teachers are arranged, how learning is planned and timely organized, and how academic as well as assessment procedures are taken. Considering both the elements and their relationships are crucial: these structures create the complete “pedagogical core” which, together with the learning principles, offer the fundamental framework for analyzing learning environments. As OECD (2013) stated, the framework provides “the overall criteria regarding the effectiveness and learning centeredness of the learning environment” (p. 25).

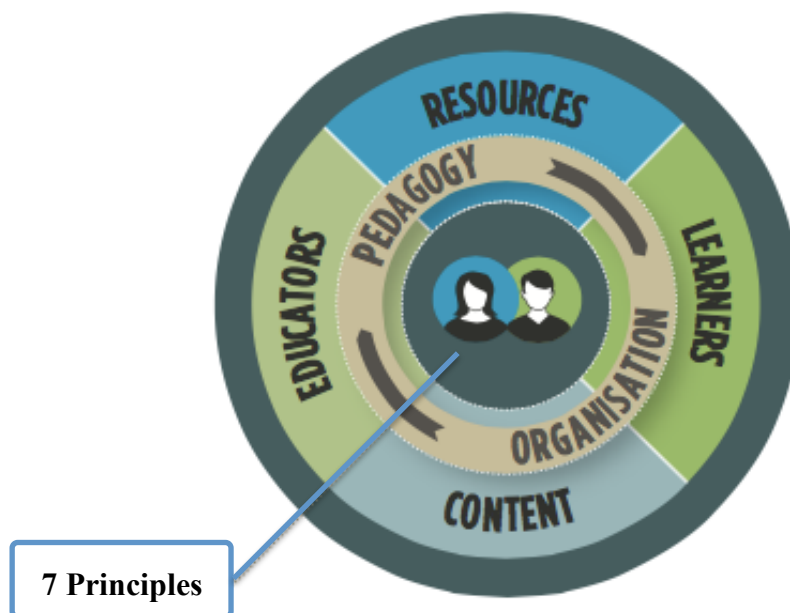


Figure 4. ILE framework (OECD, 2013, p. 24)

This framework also helps reconsidering and reshaping educators, class schedule, pedagogical approaches, and so forth. For example, OECD suggests teachers to collaborate

when planning curriculums, to share TPD strategies, and simply to work together. The study reported that teamwork expands the options of different teaching practices and let teachers pay more attention to individual student especially those who are struggling, that otherwise extremely difficult to be done by a solo teacher in classroom. Rethinking of how to group students is also a key to establish ILE. The outcome of ILE project revealed the advantages of learning in small-size groups and encouraging group work which assists students to gain the sense of belonging and develop unique pedagogical tactics. This also implies that leaving the idea of standard age-grade grouping and blending wider unit of age in a classroom lead to stimulation towards learning, in-class diversity, peer teaching and learning, anti-bullying, and positive social relationships among teachers and students. Use of time is also more flexible in ILE comparing to traditional cases. This is a very crucial element to also reconsider since “many in education continue to view time primarily in quantitative terms” which is quite problematic if schools desire to innovate their learning environment; thus, our idea of using time needs to shift in innovative ways, which “is altogether a more qualitative matter” (OECD, 2013, p. 83). For this indication, OECD mentioned some essential details such as flexible and personalized schedule, and integration of non-formal or/and distant learning. Flexibility closely relates to individualized learning as well as educational beliefs which intending for schooling to be less bureaucratic. Regarding reshaping pedagogical approach, it is vital to consider what instructional methods could equip learners for tomorrow’s society. Though collaboration is an indispensable element of ILE, there are more innovative instructional choices such as inquiry-based learning, project-based learning, integration of technology, formative feedback, and instructions using mixed-methods (OECD, 2013).

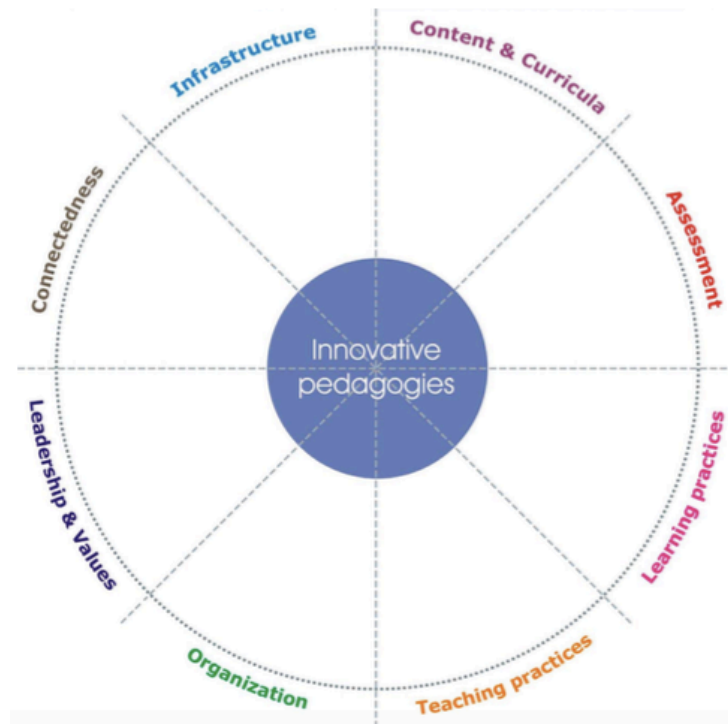


Figure 5. Illustration of innovative pedagogies (Bocconi et al., 2012, p. 9)

### Summary of ILE

In this context, I interpret ILE as the environment where learning is student-driven, interactive, collaborative, flexible, and personalized with help of teachers who are there to support pupils' learning process through mix of pedagogical approaches, constructive feedback, and proper application of technology based on pupils' individual traits and needs. ILE offers better student-teacher relations which make students active participants in learning which eventually foster their 21st century competencies. Besides its distinctive teaching and learning practices, ILE also gives physical space an importance. Flexibility of the space and its innovative ways of use are also a key for positive learning experiences. The learning principles together with the pedagogical core structure the fundamental framework and philosophy of ILE.

### Major Distinction Between Traditional Learning Environment and ILE

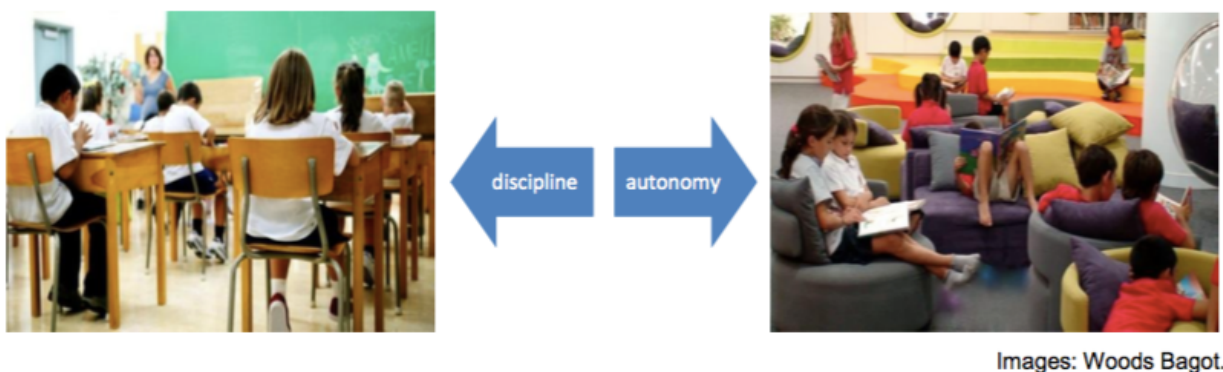
Comparing those two different learning environments, it is not difficult to identify

differences between the two. OECD (2013) simply stated that ILE supports highly individualized learning unlike the traditional learning environments' form of "one size fits all" (p. 189). It is also clear that teacher's role of these environments are vividly dissimilar: teachers from ILE act more as orchestrator or facilitator of learning activities (Bocconi et al., 2012; Walshaw, 2012) unlike teachers from traditional learning environments who appear to be more an individual who simply transmits necessary information to students (OECD, 2013, 2015). Traditional model, furthermore, focuses on "conformity and control" (OECD, 2013, p. 190) in which learners' role becomes passive recipients, not active participants and academic designers (Schrittesser et al., 2014; OECD, 2009, 2013, 2015) contrasting to ILE where learners are encouraged to engage and realize themselves as learners – "giving the learners a leading role in the design and implementation of their own learning is clearly to rethink one of the fundamental assumptions about schooling" (OECD, 2013, p. 190). According to Schrittesser, Gerhartz-Reiter, and Paseka (2014), ILE has the mentality of "we", meaning both teachers and learners understand that they are "responsible for learning and are co-constructors in the processes that will take place during the lesson" (p. 150). Moreover, ILE "focus more directly on learning, rather than schooling" (OECD, 2013, p. 28).

Another element to differentiate these two learning environments is an assessment process. Most importantly, according to OECD's statement, "without feedback or recognition, students will not necessarily accord social competences priority among all the other learning taking place" (OECD, 2013, p. 49); thus, ways of feedback is extremely crucial for children's learning processes. Traditional learning environment emphasizes on attainment of information through standardized tests or/and quizzes; however, assessments done in ILE value personalized feedback (US Department of Education, 2012), and provide explanations

for individual growth as an innovative learner (Ellis, 2009). Crucial factor of ILE is that students take initiative in this process of assessment which nurture the culture of peer-evaluation (Hattie, 2009; Redecker, Punie, & Ferrari, 2012), self-evaluation, integrity, deeper understanding, and steady ethics (Binkley et al., 2012).

Physical space could also be one aspect which makes traditional learning environments and ILE significantly different. Previous studies have shown how actual learning space could be correlated to learners' productivity (UNESCO-UIS, 2012; OECD, 2013, 2015; Savin-Baden, 2008; Rudd et al., 2006; Osborne, 2013). For example, Monahan (2002) believed that space might restrict OTL due to the limitation of particular movements and variation of activities; however, at the same time, space could allow students to have more autonomy in their own learning if it is designed to be. Hence, space has great potential to enhance learners' autonomy and motivation towards learning, and ILE certainly has flexibility and creativity in the ways of using learning space.



*Figure 6.* Illustration of Monahan's concept of "build pedagogy" (Cleveland, 2011, p. 40)

There is, additionally, a vivid difference in integration of technology between the two types of environments. Some researchers discovered that traditional classroom environments restrain opportunities for effective technology integration (Skill & Young, 2002; Thompson, 2005).

OECD (2015) stated that traditional reform instruments do not initiate culture transformation and re-professionalization of teaching and learning since the instruments such as pressure of responsibility, single teacher in class, lack of practical use of technology, and incomplete schemes are the “wrong drivers” to innovate education (p. 75). The “right drivers”, on the other hand, include “the focus on the learning-teaching-assessment nexus; social capital to build the profession; pedagogy matching technology; and developing systemic synergies” (p. 75).

Table 1

*Characteristics of Traditional Classroom vs. Constructivist Classroom (ILE)*

<u>Traditional Classroom</u>	<u>Constructivist Classroom (ILE)</u>
■ Curriculum begins with the parts of the whole / Emphasizes basic skills	■ Curriculum emphasizes big concepts, beginning with the whole and expanding to include the parts
■ Strict adherence to fixed curriculum is highly valued	■ Pursuit of student questions and interests is valued
■ Materials are primarily textbooks and workbooks	■ Materials include primary sources of material and manipulative materials
■ Learning is based on repetition	■ Learning is interactive, building on what the student already knows
■ Teachers disseminate information to students; students are recipients of knowledge	■ Teachers have a dialogue with students, helping students construct their own knowledge
■ Teacher’s role is directive, rooted in authority	■ Teacher’s role is interactive, rooted in negotiation
■ Assessment is through testing correct answers	■ Assessment includes student works, observations, and points of view, as well as tests / Process is as important as product
■ Knowledge is seen as inert	■ Knowledge is seen as dynamic, ever changing with our experiences
■ Students work primarily alone	■ Students work primarily in groups

*Note.* From “Constructivism as a Paradigm for Teaching and Learning” by WNET Education, 2004, Retrieved from [http://www.thirteen.org/edonline/concept2class/constructivism/index\\_sub1.html](http://www.thirteen.org/edonline/concept2class/constructivism/index_sub1.html)

### **Status Quo of Our Learning Environments**

As it was previously described, many have claimed that our current education



system does not at all suit to our fast growing society (OECD, 2013, 2015; Osborne, 2013; Pearlman, 2010; Scott, 2015). The rapid development and accessibility of technology have extended opportunities to teach and learn into different levels. Today's world is globally intertwined more than ever and ways of perceiving information has been transformed entirely (Hampson, Patton, & Shanks, 2012). More practical environments require higher order skills which involve with analyzing, assessing, and incorporating information; emotional and social skills; and critical thinking ability – if the modern society demands these skills, schools must adjust themselves to foster these competences (Hampson et al., 2012).

However, the existing state of affair in school settings is not reflected as fulfilling those needs. Obe (2004) from a joint venture program called *Building Futures* claimed that our education has been adopting pedagogical models which likely to be hierarchical, meaning schools have become a doorway to higher education and career opportunities just to push students “to play different economic and social roles” (p. 14). As well as Obe (2004), a number of researchers and educators (Osborne, 2013; Cleveland, 2011; Bransford et al., 2000) have raised voice against inadequate “factory model of education” which has been the standard for great number of schools for almost 200 years – groups of students are packed in classrooms, overwhelmingly provided information through a set of programs, evaluated on the basis of standardized criteria, and required to move from one class to another until they are prepared to be part of workforce (Cleveland, 2011). This factory model made great influence on curriculum design, ways of teaching, and evaluation of students in schools, which is how the standardized tests have emerged as a major form of measuring and recording learners' acquisition in schools (Bransford et al., 2000).

The world of 21st century is rapidly changing and education must constantly

evolve along with it (Hampson et al., 2012). However, its transition has been particularly inactive especially because “schools and their supporting agents are often highly resistant to change and don’t deal well with turbulence or shocks to they system” but instead prefer to preserve the traditional “homeostatic nature of the system” and do not make enough attempts to apply innovative educational scheme which is more appropriate for the 21st century society (Cleveland, 2011, p. 238). Thus, in reality, great number of schools remains practicing traditional pedagogical strategies and systems regardless of the world’s active change. In fact, according to the study done by Cleveland (2011), various school directors acknowledge the fact that the industrial model which takes place in traditional classrooms is actually restraining from educational innovation and resulting in limited learners’ engagement. Those outcomes of previous studies clearly indicate that “innovative learning environments remain the exception rather than the rule in most education systems” in worldwide (OECD, 2015, p. 4). Hence, learners as the fundamental part of educational ecosystem must question if this phenomenon should be carried on (Obe, 2004).

Exchanging traditional learning environments and their pedagogical practices to ILE lead to “pedagogical innovation and the emergence of new socio-pedagogical cultures that supported high levels of student engagement” (Cleveland, 2011, p. 245); therefore, pupils in ILE are believed to be active learners who try to absorb more complex issues using 21st century skills and are well equipped to transfer their knowledge under broad and diverse contexts (Bransford et al., 2000). Improving pupils’ learning experience and recognizing the true purpose of learning, moreover, would lead to deeper comprehension. In order to achieve this conception, pedagogical approach must be shifted to learner-centered not "teacher-directed whole-group instruction" (Pearlman, 2010, p. 118), and let learners

“initiate fruitful moments for learning” (Schritteser et al., 2014, p. 145; as in Holzkamp, 1995). The status quo of our learning environments is the substantial reason why implementing ILE is crucial, and giving this study significance.

### **Linking OTL and ILE**

Through thorough investigation on the concept of OTL and ILE, it is convincing that these concepts share similar or even interrelated core values and definitions. Hence, it is quite clear that ILE potentially contains greater “ingredients” for quality learning especially comparing to traditional learning environments. The role ILE plays regarding students’ OTL, by looking at the theoretical explanations for both concepts, seems to have a significant impact.

### **Methodology**

To investigate the previous statement further, exploratory approach was applied for conducting qualitative case study with an international high school in Japan. KAIS International School, the sample of this study, fits to the descriptions of ILE based on its educational principle; beliefs; design of curriculum; instructional practice; and use of space; along with my own interpretation from the interview sessions, classroom observations, and personal experiences as a previous employee of the school. Further details of the school and methodology of the study will be discussed in this section.

### **Research Design**

For this study, a qualitative case study was employed while “it can provide an in-depth and intensive examination” (Long, Logan, Cummins, & Waugh, 2016, p. 4); moreover, this form of approach is preferred when learning about different conditions of events in a natural environment (Yin, 2003). Punch (2005) also added to the statement that

qualitative method lets more holistic understanding of important conditions since it is able to disclose the actual views and thoughts of individuals associated with the circumstances which is impossible to be contemplated without the qualitative approach (Stake, 1998; Yin, 2003).

### **Descriptions of the Participating School**

**History of KAIS International School.** KAIS International School is selected for the empirical analysis. The school is located in the heart of Tokyo, Japan, and has been operating since 2006. It was founded by Jonathan Yaffe and Charles Knudsen, who had a vision of creating an individualized learning environment where students love learning. Yaffe himself was educated in a learning environment where Montessori method was applied; thus, he greatly appreciates the academic principles of this particular type of education method, and his experiences along with the view towards education are reflected on the philosophy of KAIS International School.

**School belief.** KAIS stands for Knowledge, Academia, Inspiration, and Sprit. KAIS International School believes that “smaller classes, hands-on learning, and balance between disciplines is a key component” of growth and development of pupils; hence, its mission is “to provide students with a holistic education – one that emphasizes the academic, the creative, and the physical” (“History”, 2017). The school claims to be one of the most academically recognized and innovative international schools in Japan due to its unique pedagogical settings and approaches. The school offers family atmosphere and individualized learning by making class-size small and keeping the average student-teacher ratio low (8:1) – this encourages tight relationship between students and teachers as well as among peers. KAIS International School believes that each student is a unique individual and each one has different demands and ways of learning. According to its website, it is a learning

environment where students “develop their connectedness to others while exploring who they are as individuals” which directly associates with another school belief: “self-awareness, curiosity, and empathy are vital in the development” of the learners who will eventually build the future of our society (“Innovative and Challenging: KAIS International School”, 2017).

**Vision of school.** Since it is a small-scale international school, it establishes a unique position in educational opportunities unlike traditional public and private schools in Japan. The school aims contributing to the international community in Tokyo through promoting “academically challenging, creatively stimulating and caring atmosphere for learning” – its students with diverse backgrounds are expected to be a part of creating and positively involving in the international community (“School Vision”, 2017).

**School system.** KAIS International School is an international school which follows the educational standards and requirements from Common Core State Standards Initiative, the quality academic standards from the United States which describe what K12 learners should comprehend in the area of English language arts/literacy and mathematics by the end of each school year (“Common Core State Standards Initiative”, 2017). The school also offers Advanced Placement (AP) program for students who are eligible and highly motivated to challenge university-level materials. Once students pass the official examinations, they are qualified to receive credits from majority of universities and colleges in the United States. KAIS International School currently offers AP courses in biology, calculus A and B, chemistry, US history, physics, and statistics.

**Tuition.** International schools in Japan are known for being extremely highly priced since they are private institutions and mostly targeting on families of expats – KAIS International School is not an exception to this formality. The school’s annual tuition fee is

¥2,435,040 including course materials, school trip, and event fee which converts to approximately €1,865,493. In the first year of enrollment, there will be additional ¥216,000 (approx. €1,668) to the regular tuition as a registration fee (see Appendix G for the breakdown of the fee). However, the school does offer scholarships for students who have high academic standard and/or some financial issues. The amount of reduction is depending on the student – the principal, headmasters, and accountants discuss together after consulting with the students and their parents in order to assess eligibility and volume of the scholarship.

**Demographic information.** It is a high school which consists of grades between 9th and 12th, the youngest age of 13 to the oldest of 19. The total number of students enrolled at the school was 36 with the male/female ratio of 22:14. Each grade accommodates no more than 12 students: eight students (male=4, female=4) in the 9th grade, 11 students (male=8, female=3) in the 10th grade, 11 students (male=7, female=4) in the 11th grade, and six students (male=3, female=3) in the 12th grade. Students at KAIS International School come from 13 different countries and, in fact, majority of the students have bicultural or multicultural background.

With regard to teachers, there are six full time teachers including the principal (male=5, female=1); three part-time teachers (male=1, female=2) including an assistant director who also teaches the art class; a female school director who also plays a role of an administrator; and the two male founders/headmasters who usually involve with managing the school remotely. Their average age is 35.5 and average length of teaching experience is 6.8 years.

**Curriculum offered.** Various subjects including non-academic courses are offered at KAIS International School. There are eight main categories of subject: English, science,

mathematics, social studies, physical education, foreign language, electives, which include leadership and life skills, and creative studies, which include drawing, music, and robotics (see Appendix H for specific courses offered from each category). At KAIS International School, the following minimum requirements should be met in order to graduate: eight semesters of English, six semesters of mathematics and science, four semesters of history and P.E., two semesters of creative studies and electives, and one semester of U.S. government and economics. Four semesters of foreign language will be required from the class of 2018. A day at the school is constructed with four to six blocks depending on the day – small blocks lasts 48 minutes while larger blocks lasts 96 minutes since some classes necessitate or better facilitated with longer period of time comparing to the others. See Appendix I for class schedules of 2016 - 2017 school year.

**Learning settings and resources.** One of the most unique features of KAIS International School is the physical structure of the school. The school building itself is a form of a house which creates family atmosphere as the school actually aims to be. The school has three floors including the basement: the basement has a classroom, which is also used for practicing Yoga; an art studio which used to be a garage of the house; a locker room for students; and two small storage rooms for class materials. The first floor includes the entrance/reception where the school director and assistant director situate; two classrooms/library; a kitchen where students are allowed to cook during lunchtime; and a science lab. The second floor comprises of three classrooms; a teachers' office; principal's office; a small balcony where students grow some vegetables and flowers; a reading nook by the window; and a music studio. Each floor has at least one room with a projector or screen TV which both teachers and students use for lectures and presentations. Every room in the

school has windows – some are larger than the others – that provide the space natural light throughout the day.

KAIS International School particularly desires the classrooms to be cozy and kept in small sizes because it allows “more opportunities” for the learners to “engage in hands-on projects, receive individual attention from instructors, present their work to their peers, and participate in discussions” (“Personalized and Tight-knit: Cozy Classrooms”, 2017); moreover, this environment also helps teachers to provide such opportunities. As the school website explains, the small size class format lets learners’ voice heard substantially easier than a bigger-scale class. Almost all the desks are movable which gives flexibility to reassemble a classroom depending on activities and/or needs of the class. Flexibility is a key for KAIS International School’s learning space since group and/or pair projects take a large part of the classes. The school uses not only square shaped desks but also ones with round shape: the intention of the shape is to let students see their peers and encourage active engagement in learning.

***Integration of technology.*** One significant feature of KAIS International School is that every student receives a personalized laptop computer to use in school for projects and lectures. Each computer has an assigned charging dock and it must be kept there when not used. Majority of the classes require some kind of digital presentations on each topic covered, and for that reason, students are required to conduct online and offline research – computer here plays an important role for the process of learning and gaining information as well as producing educational products. Hence, integrating technology into teaching and learning is an essential factor for the school’s pedagogical operation. KAIS International School, therefore, makes an effort to assure positive balance of incorporating technologies and



restricting them when necessary by applying adequate regulations. For example, the school does not allow pupils to use their cellphones in the school building unless permitted by the principal or/and teachers – usually only the case of emergency. It is because the school believes that using mobile devices could hinder direct interactions among learners – teachers do not wish them to be only focusing on those devices and not having personal communication even when sitting next to each other. The school believes that technology could enhance learning if it is utilized adequately with appropriate discipline.

***After school tutoring program.*** The school offers an after school tutoring program for those who are struggling with fully understanding the contents that are covered in class, or anybody who wishes to access additional help. It is entirely private (one-on-one), thus, students are able to ask more specific questions and able to take time to truly digest the information. Every teacher also stays in school until it closes at 6pm so that any students could ask for help if they need extra support.

### **Data Collection Procedure**

The case study includes informal classroom observations and semi-structured interviews with teachers, students, and the principal in order to assemble information from various figures to investigate the research question through multiple angles.

**Informal classroom observations.** The observations were carried out in four different classes with different subjects and grade levels: (a) mathematics (statistics) with 12th grade, (b) English writing with 10th grade, (c) speech with 9th and 10th grade, and (d) philosophy (honor's program) with mixed age groups. All of those classes were observed for approximately 25 minutes. The reason of selecting those classes is to incorporate varieties of subject and grade into the study, and also the teachers who were in charge of those classes

were the participants for the interview session. The following guideline, created based on the theoretical understanding through literature review, was adopted for classroom observations (see Table 2).

Table 2

*Guideline for Classroom Observations*

	<b>1. Instruction practice</b>
Definition	Using purposeful tasks and conceptual tools (e.g., pictures & stories) – connection to the real world context
Example	<i>“If you were this character from this story, would you do the same as he did in the situation?”</i>
	<b>2. Adequate feedback</b>
Definition	Providing students constructive, formative feedback while working on tasks
Example	Teacher talks to individual student to see his/her progress and advise what else he/she can do to make the work better
	<b>3. Encouraging meaningful interactions in class</b>
Definition	Giving students opportunities to share and discuss thoughts regarding class topics
Example	Teacher asks students to Think Aloud with a peer sitting next to them for a pair discussion, then ask them to share the idea with the whole class for a class discussion
	<b>4. Challenging students</b>
Definition	Push students’ boundary by asking questions and/or conducting activities
Example	Based on a subject topic, teacher asks questions with different perspectives: e.g., <i>“What would you do if~?”</i>
	<b>5. Integration of technology and other resources</b>
Definition	Using technology such as laptop computer to individualize and organize own learning
Example	Teacher asks students to use their laptop computers to organize own work and access to class materials
	<b>6. Interactions between students and teacher</b>
Definition	Teacher gives opportunities for students to speak out and share their opinions to keep good balance of teacher-student talking time – teacher does not become a “sage on stage”
Example	Teacher asks questions, instead of making statements, to let students talk and lead discussions
	<b>7. Usage of learning space</b>
Definition	Utilizing the space to maximize the learning process and outcomes of class activities
Example	Teacher uses the kitchen for speech class to let students demonstrate while giving speech, instead of using a regular classroom

## 8. Students' initiative

Definition	The class is driven by students' active participation – learner-centered instead of teacher-centered
Example	Student explains his/her classmates the solutions to statistics problems, and teacher plays a supporter role

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**Individual interview sessions.** The interview sessions took place on March 27th and 30th, 2017. To avoid interrupting regular class schedule, the sessions were divided into three time slots for student participants: before homeroom (9:20-9:40), during lunchtime (13:00-13:20), and after school (16:10-16:30). One participant was appointed at first slot, two participants were on the second slot, and one participant was on the last slot of each day (see Appendix J for the schedule of individual interview sessions for students). For teacher interviewees and the principal, it was arranged during their spare time: interview of teacher 1 was carried on March 27th, and teacher 2 and the principal's interview were done on March 30th. All the participants were individually invited to a private room for an interview session. The conversation was recorded with a mobile device – permission of audio documentation was obtained from each interviewee before the session.

**Sample descriptions.** As well as the site selection, nonprobability sampling was adopted for sample selection since the population size is under 50. Purposive sampling method was particularly used according to my own interpretation together with perceptions of the principal to decide on the sample size of 11 (student = 8, teacher = 3) – the sample characteristics well represent the whole population of KAIS International School. As a matter of keeping confidentiality, participants' names have been replaced to *Student 1, 2, 3, 4, 5, 6, 7, 8; Teacher 1 and 2; and Principal* on the report.

**Student participants.** First of all, to keep the gender equilibrium, both male and female student were selected from each grade. Additionally, one of the two participating students in each grade is mono-racial and the other is bi-racial/multi-racial. Furthermore,

each grade's participants consist of one fairly new student (approximately seven months) and one who has been a student at KAIS International School for quite some time (six years), except the participants from 11th grade – both of whom have been students at KAIS International School for more than five years since this grade has more old students than new students. Having two students who have known the school for many years might help to understand the nature of KAIS International School better and to acquire more intensive insights. To sum up, following student participants were chosen for the individual interview sessions (see Table 3).

Table 3

*Description of Interview Participants from Student Group*

	<u>Student 1</u>	<u>Student 2</u>	<u>Student 3</u>	<u>Student 4</u>	<u>Student 5</u>	<u>Student 6</u>	<u>Student 7</u>	<u>Student 8</u>
Grade	9th	9th	10th	10th	11th	11th	12th	12th
Gender	Female	Male	Female	Male	Female	Male	Female	Male
Nationality	Japanese	Spanish Japanese	Taiwanese	Iranian Japanese	American Chinese	Korean	American Japanese	Bengali
Age	14	15	16	14	17	16	18	17

*Teacher participants.* As it was alluded earlier, two teachers from the observed classes were asked to take part in the individual interviews. The chosen teachers have different length of professional experience in teaching: one has approximately 15 years of experience at multiple schools, and the other for six years only at KAIS International School – this might project diverse point of view towards learning environment and learners' opportunities to learn. Teacher 1 is a female Canadian and Teacher 2 is a male American. Teacher 1 was in charge of four classes including English writing, vocabulary, leadership, and speech, and Teacher 2 was responsible for all the math classes, honor program of philosophy, and a college preparation program for the senior students in the school year of 2016-2017. Both of them have been working at KAIS International School for six years.

Table 4 summarizes the characteristics of each teacher participant.

Table 4

*Description of Interview Participants from Teacher Group*

	<u>Teacher 1</u>	<u>Teacher 2</u>
Gender	Female	Male
Nationality	Canadian	American
Age	38	34
Years of Experience	15	6
Years at KAIS	6	6

*School principal.* The school principal certainly was included in the interview process. He, 35 year-old American, has been working at KAIS International School for 10 years: four years as a vice principal and six years as a principal. In addition to the role of [vice] principal, he has also been teaching primarily literature classes. He had previously worked at a public school in the United States for two years as an American literature teacher before joining KAIS International School. He was in charge of three classes: English literature, English comprehension, and study hall.

***Instrument.*** The final interview instrument contains four to five demographic questions and four to six open-ended key questions depending on the participant group (see Appendix D, E, and F for the final version of interview instruments). Based on the conceptual understanding of ILE and OTL as well as the outcomes of the pilot study, the key questions were designed and finalized to determine ILE's relationship with OTL. Each interview was originally set for 10 minutes.

*Pilot study.* Once the original interview questions were designed (see Appendix A, B, and C for the original version of interview instruments), a pilot study was conducted to examine feasibility of the instruments with a male American teacher who also teaches at

KAIS International School as a history teacher since 2011. He has 11 years of professional teaching experience at several schools and institutions in Honduras and Japan. For the school year of 2016-2017, he was responsible for the U.S. history, world history, medieval history, government and economics, and English writing classes. The study took approximately 30 minutes to go over the complete set of prepared questions. It was done through “Think Aloud” method in order to collect his thoughts more thoroughly by verbalizing.

The feedback from the participant was mainly about some of the key questions being unclear and holding potential misunderstandings, thus, could interrupt the interviews. For example, one question for teacher participants was originally stated “*how the conditions of your class (curriculum, instructional quality, and time & resources) promote learning, and provide students with adequate opportunities to learn?*”; however, this, according to the pilot participant, is not clear enough for the interview participants to fully understand what the true motive of the question is. Hence, the question was revised to “*what do you bring into your class to foster students’ learning?*”. Another important takeaway was to omit some questions which were redundant or not relevant to the research question.

## Results

### Classroom Observations

Total of four classroom observations were conducted in order to be fully aware of classroom practice, culture, and how pupils and teacher interact with each other.

**First classroom observation.** The first observation was done on March 6th, 2017 with the philosophy class which is a after-school voluntary program for honor students. The 50 minutes class contained eight students from all the grade level (age range: 14-18; male: female = 4:4). Each student took assigned laptop to class to display own work and reading

material for the session. The classroom had three round tables and students were able to choose where to take a seat (see Appendix K for the illustration of the classroom layout during the observation). The instructor was Teacher 2 who also teaches math classes. Students were required to go through the texts before coming to class so that the class could start with reflecting and discussing the reading material instead of reading it in class – this approach is similar to “Flipped Classroom” model which students prepare for classes by going through materials at home, and the actual class time is dedicated for in-depth discussions and activities.

The teacher stood in the position where everyone could see his expressions; moreover, because of those round tables, students could also see each other and made discussions to happen easier. The class started with a question by the teacher simply to ask what’s the students’ thought on the assigned reading. After focusing on students’ perspectives, the teacher also shared his own thoughts to add on to the discussion. He gave everyone an opportunity to share opinions – his way of speech was very casual so as students. No one seemed to be afraid to speak out in class, in fact, it was a very much student-driven discussion and the teacher threw some key questions in appropriate timings.

Due to the nature of the subject, discussion topic was relatively sensitive and personal; however, every student was actively engaged in the discussion regardless of its delicate topic. The teacher tried to connect the content of the reading to real-life experiences of students as well as on-going issue of the society such as political situations. The structure of the discussion was to reflect the material first, then each student gave opinions of pros and cons of the statement to discuss further, and after the whole-class discussion, each student, again, shared thoughts to wrap up the session. Since it was a student-driven format, not only

the teacher but also the students asked some significant questions. The teacher actively employed “inquiry-based learning” method throughout the class. Talking time of the teacher and students seemed well balanced: the teacher certainly listened to the opinions of students and paid attention to their thoughts, but at the same time, provided them information and views from different perspectives. Throughout the class, the teacher acted more like a “guide” or “coach” rather than a “teacher” to raise questions for students to think critically and logically.

**Second classroom observation.** The second observation took place on March 30th, 2017 in the 12th grade statistics class with Teacher 2. The layout of the classroom was structured with four movable square tables together with colorful stools. Students sat two by two and discussed and/or helped each other throughout the class (see Appendix L for the illustration of the classroom layout during the observation). They had their laptop in class to go through class materials. Similar to the way that the teacher carried out the philosophy class, he let students be in charge of explaining the problems and their solutions to peers. When students struggled to do so, he came in to explain how they could approach to those problems.

This class, as well as the philosophy class, had nearly the same amount of student-teacher talking time: when students had questions, they were able to speak up to seek for help. In this way, other students could also benefit from this interaction. Because of the small class size, the teacher could listen to each student deliberately and pay more attention to small details. Students were actively engaged and focused on what the teacher was asking and explaining. When the teacher was describing how to solve a problem, he tried to make it as simple as possible by using simple vocabulary.



**Third classroom observation.** The third observation was carried out on March 27th, 2017 with the 10th grade English writing class taught by Teacher 1. The classroom had three round tables with colorful stools which were easy to move around (see Appendix M for the illustration of the classroom layout during the observation). During the class, the teacher kept walking around the room from table to table to be close to students and always made eye contact when talking to them. The class was about preparing for better writing skills for SAT so the teacher used a projector to go over the instruction step by step. While explaining about in-class assignment, she gave clear examples and asked everyone if they understood correctly (e.g., Asking “*Do you understand?*” after each point she went over). In fact, before letting students work individually, she went over important points with everyone so that no student would be left behind.

Teacher 1, contrasting to Teacher 2, constantly moved around the classroom to talk to students in closer distance and see their progress, and also used body language quite often. The class seemed to be carried out with a certain tempo, and students seemed to know the exact flow of the class and what they are expected to do and achieve. As well as Teacher 2, she was also open for any small discussion in class: the students in class also seemed comfortable sharing their thoughts with the teacher and others. The teacher, moreover, encouraged students to “Think Aloud” and get feedback from their peers. The students were allowed to use their laptop computers to search resources that they need for the assignment. Throughout the class, relaxing background music was played which helped the environment to become more comfortable and students to work creatively.

**Fourth classroom observation.** The last classroom observation was done on March 31st, 2017 with the 9th and 10th grade speech class taught by Teacher 1. The focus for

this particular class period was “demonstration speech”; therefore, students were previously asked to prepare a speech to explain classmates how to cook their own choice of recipe. For that reason, this class was taken place in the school kitchen (see Appendix N for the illustration of the classroom layout during the observation). Since this presentation was part of an official assessment of the class, the teacher especially paid attention to their: (a) content and organization, (b) delivery skills, (c) enthusiasm and audience awareness, and (d) conventions while presenting. Each student was giving a speech about how to make a certain dish while demonstrating it: during presentation, audience asked some constructive questions to the presenter. At the end of each presentation, audience and the teacher gave direct feedback to the presenter to identify what were good about the speech and what could be improved. The teacher also paid attention to the audience and pointed out what they should do to be better listeners and participants. Afterwards, the teacher and students reflected on the whole session while having the meal together.

**Findings.** Throughout the entire observation process, many comparable patterns of behavior were recognized. First of all, the students seemed extremely comfortable speaking out in class and share their own views with others. Secondly, teachers were asking questions to challenge students and made them think deeper to the subject matter to stretch their horizon. The teachers seemed to know what pivotal questions are and when to ask them. Lastly, related to the second point, the teachers played a role of “coach” or “guide” for students. It promoted the cooperative atmosphere by working together with learners instead of only transmitting information unidirectionally.

### **Individual Interviews**

The recorded interview data was transcribed and imported into an online program

called MAXQDA for further analysis. Coding scheme was created based on the theoretical background: it incorporates eight primary categories and each category has two to 11 sub-codes to break down the data into details. Figure 7 explains the coding scheme for the MAXQDA analysis. Eight boxes on top represent the main categories and the boxes following each primary category include the sub-codes.

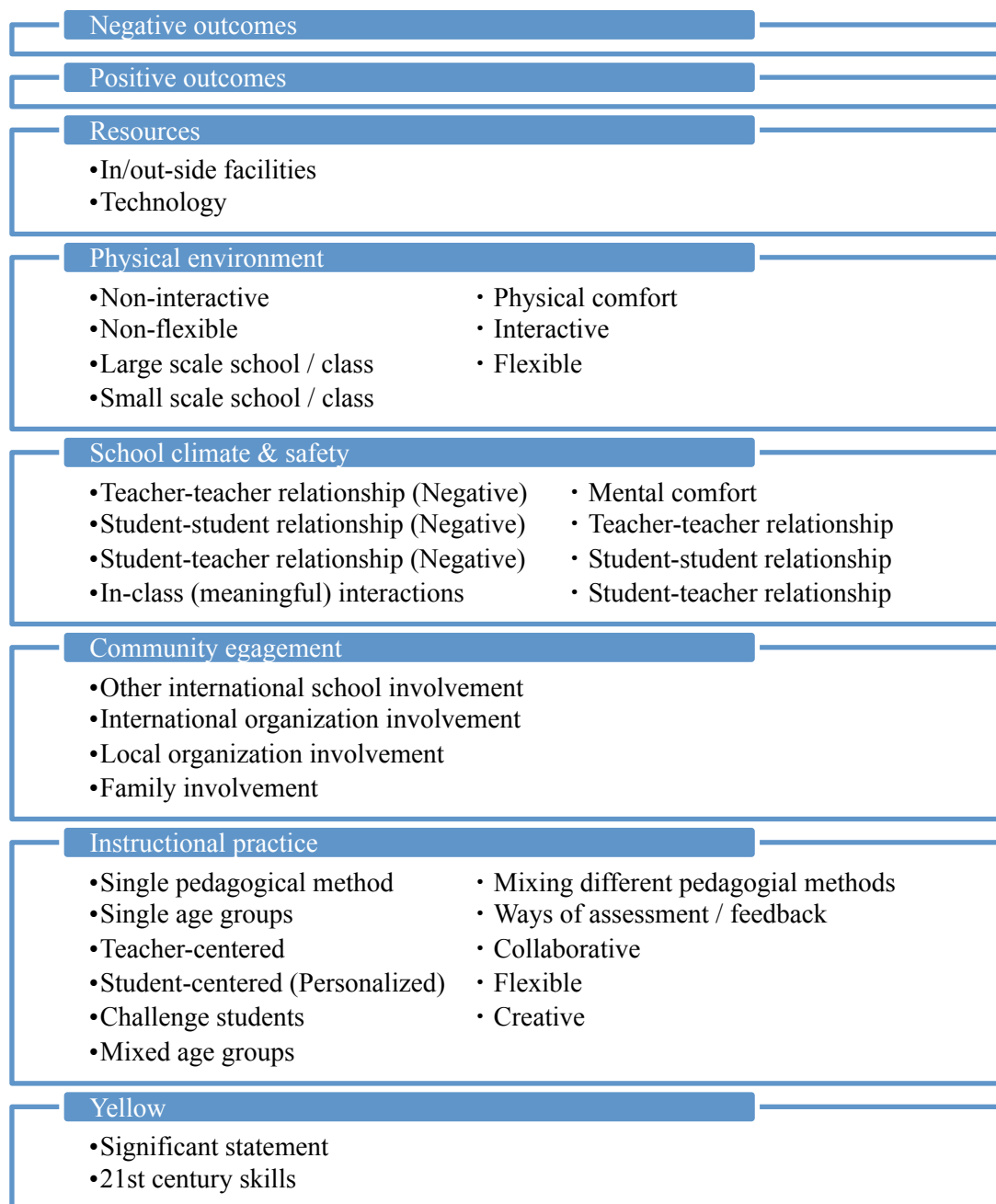


Figure 7. Coding scheme for MAXQDA analysis

**Resources.** This category includes the sub-codes in/out-side facilities and technology. In/out-side facilities indicate how the school utilizes and integrates different internal and external facilities for teaching and learning. Some participants talked about how KAIS International School provides pupils opportunities to go out and expand their field of learning. Teacher 1 stated that *“we would go outside and do a lot of activities, try to incorporate some kind of community... get kids involved in life outside of school”* especially through her leadership class. The principal pointed out that the large portion of learning *“happens outside the school”* and he believes that *“experiences outside of classroom are great opportunities to learn”* and *“it’s incorrect to think of the classroom is the only place where learning happens”*. According to his explanation, there are various trips and events that school organizes occasionally which take place outside of school. The sub-code technology focuses on how participants perceive blending technology into classroom practice. As Student 3 mentioned *“we have Apple products here”*, KAIS International School provides each student a personal laptop to use for schoolwork. According to her, using them in class is *“actually a really good idea”* because *“you can always have the resources”* and as Student 6 answered, students are required to take online courses from *“Coursera which each person takes own courses”* based on own field of interests.

**Physical environment.** This category implies the actual school building, classrooms, furniture, and amount of people in school/class, and how the environment itself performs to encourage/discourage teaching and learning. In this category, the sub-codes large-scale school/class and small-scale school/class were mentioned more than the others. All the participants previously enrolled in larger schools where students have *“individual desks and facing the blackboard”* (Student 7) and *“having too many students in one*

*classroom*” (Student 6) which created *“a wall between every grade”* (Student 3) unlike KAIS International School which is *“a house”* and classes are *“small”* and *“interactive”* (Student 5). The aspect of small-scale school/class was mentioned by student participants quite often while explaining about positive relationship among students and teachers, and access for individual support. The principal, moreover, mentioned that in KAIS International School, *“some of the tables are round tables and some of the tables are tables that can be pushed together”* because *“a lot of what we do here is group collaborative work”* and students *“can use our building to collaborate and work on these things”*.

**School climate and safety.** This category especially accentuates relationship among students and teachers, and how it promotes their mental comfort and discomfort. This category was brought up from the participants the most out of all the categories. All the participants commented on the positive relationship among people at KAIS International School. For example, Student 5 said *“I feel more personally connected with the teachers”* and *“they kind of act like a counselor”*. She also mentioned that *“we can call teachers by their first name. It’s like a comfort level of the students”*. Majority of the participants said this small environment helps them to have the close relations with others which tie into their mental comfort and safety in school. No boundary between different age groups is another characteristic of KAIS International School as Student 1 said *“there is not much of a distance between the upper grades and lower grades, and everyone is just friends as if we are all like classmates”* which also prevents from bullying as Student 2 and 6 answered. Among teachers, moreover, there is similar comfort to be able to share their opinions and trust each other to work together as both teacher participants and the principal stated about the positive connection among teachers.

Almost all the student participants commented on the negative student-teacher relationship in their previous schools. For example, Student 2 felt that “*teachers just didn’t really care*” about students and “*generalize how you are*” as well as Student 3 said “*I really didn’t pay attention at school because teacher doesn’t even care about you*”. Many answers illustrated that large class size creates distance between teachers and students and made it difficult to reach out for support. Student 5 also mentioned that there were clear line between students and teachers in the previous school.

**Community engagement.** This category indicates the involvement of community including family, other international schools, and domestic and international organizations. For Teacher 1 especially, it is crucial to get pupils involved with communities and gain real-life experiences. According to Teacher 1, through her leadership class, students had opportunities to interact with homeless people and physically challenged people through working with local organizations, which she said, “*I think it was fun for them to actually test their own comfort levels*”. KAIS International School also offers pupils an opportunity to engage with an international organization to do volunteer work in Cambodia. According to the principal, he also encourages “*teachers to go to other schools, see how other things are run, talk to people within the same department from other schools*”. He also claimed the importance of family involvement including parents and siblings in the process of creating school culture.

**Instructional practice.** This category focuses on pedagogical methods, its variety, and style. Student-centered (personalized) approach was mentioned more than the other sub-codes in this category. First of all, some students answered that the questions KAIS teachers ask during the class are creative and they do so in a way to make students think

critically. Additionally, all the student participants claimed that many classes at the school employ some kind of collaborative group work, as it was mentioned earlier by the principal, many class activities are collaborative group work instead of individual work. For 11th and 12th grade students, they can take an online course of their choice from Coursera, and as Student 7 did, they are able to propose an idea for independent study if they are interested in something specific and want to learn more in depth. The aspect of flexibility in learning was mentioned by student participants quite often during the interviews. As some student participants and Teacher 2 said, some of the classes are organized based on the level of acquisition instead of age which makes different age groups interact more and easier. Learners, moreover, have opportunities for multi-age collaboration outside of class such as field trips and homerooms according to Student 4 and 8. For challenging students, the principal answered *“I want a school to be a comfortable place to come but I don’t want anyone to not be challenged... their ideas not being challenged. Not being presented with opposing ways of viewing the world around them”*. Various classes at KAIS International School provide opportunities for students to discuss their opinions and open themselves to different views. The principal also explained how he carries his philosophy class by throwing a question to activate learners’ own thoughts before giving any explanations or guidance. Furthermore, as Student 3 pointed out, exam questions are asked in more creative ways to challenge students’ knowledge and thinking process. Teacher 1 talked about how assessment should be flexible and focus on learners’ progress instead of the end product. She also mentioned about assessing students individually since everyone has different level of English comprehension and previous knowledge, and not relying only on exams as a form of assessment – in the semester, she asked students to create a portfolio to see their progress of

learning rather than testing their abilities.

**Positive outcomes.** This category simply denotes positive outcomes that the participants achieved through teaching and learning at ILE. Every student participant commented on some positive results through learning at KAIS International School. Some of them talked about how they are able to open up themselves and share own thoughts with others. For example, Student 1 said there are many opportunities in class to present own work and ideas in front of peers which helped her to improve the ability to share her views with others and the way she presents them. Student 6 also pointed out that pupils “*tend to learn more about each other through working with each other*” which encourages them to understand and accept different opinions. Some, moreover, emphasized on their academic improvements – Student 5 believes those improvements were achieved because of “*the type of assistance that I am getting*” from teachers and peers. Student 6 also mentioned that this kind of learning environment helps “*students learn things much more practically and learn how to study on their own*”.

**Negative outcomes.** This category, however, illustrates negative outcomes that students have felt through learning in school, not necessarily in KAIS International School but their previous schools. Many participants answered that the previous learning environments demotivated and made them stressed while studying in class. Student 3 said the teachers from previous school were “*single minded*” and only told students “‘*that is that*’ ‘*this is this*’ ‘*if you remember this, you get good grade*’”. Because of the size of school and classes, many of them answered that they could not reach teachers for individual help. As a result, Student 5 mentioned that she “*used to get really bad grades*” which some of the other student participants also stated. Additionally, Student 5 claimed that “*the bigger school, you*



*have all these kids you don't know, you don't know if you should say some certain things..."* as well as Student 7 said *"if you are in class of 30 people, it's little more intimidating to speak up because what if you are wrong or what if you sound stupid"* – the larger class made some students feel uncomfortable and difficult to speak up and to get to know others well. This larger school environment, moreover, sometimes caused issues of bullying as quite a few student participants mentioned.

**Yellow.** This category particularly focuses on significant statements made by the participants which also imply 21st century competencies. For instance, the principal said KAIS International School aims to teach students *"how to express themselves. . . how to take on leadership roles"* , thus, he disagree with conventional ways of schooling by saying *"kids aren't just vessels that we fill information up with. We need to come with ways to get them engage with the things you want them to learn instead of just giving them, feeding them information"* especially *"our kids to have as the people who are going to be the next people that shape the future"*. There are three most crucial facets that he wants his students to improve through learning at the school: *"empathy, healthy curiosity, and the ability to ask questions"*. Therefore, he wishes that KAIS International School encourages students *"to engage in their curiosity and ask questions and seek answers about the things that interest them. I think it will make these kids learners for life"*. Teacher 1 also shared similar view to the principal – she hopes that KAIS International School provides *"the tools"* to promote students' *"communication skills and open their minds to different learning styles and just help them figure out what they want to do"* in their life. As if to respond to the teachers and principal, Student 6 also understands the value of life skills as he claimed that *"life or study is not only about equations and theories and readings... there are points where you have to*

*“speak for yourself... there are times where you have to present your own ideas”.*

The Table 5 illustrates the frequencies of each code and sub-code mentioned by each participant group during the interviews.

Table 5

Answer Frequencies of Each Participant Group

<u>Code system</u>	<u>Total</u>	<u>Students</u>	<u>Teachers</u>	<u>Principal</u>
Resources	3	2	0	1
In/out-side facilities	25	13	3	9
Technology	8	8	0	0
Physical environment	0	0	0	0
Non-interactive	3	3	0	0
Non-flexible	8	8	0	0
Large scale school / class	40	37	1	2
Small scale school / class	36	26	7	3
Physical comfort	15	11	3	1
Interactive	17	4	6	7
Flexible	11	5	3	3
School climate & safety	0	0	0	0
Teacher-teacher relationship (Negative)	0	0	0	0
Student-student relationship (Negative)	19	17	0	2
Student-teacher relationship (Negative)	32	29	1	2
In-class (meaningful) interactions	5	3	2	0
Mental comfort	65	47	11	7
Teacher-teacher relationship	15	2	3	10
Student-student relationship	51	46	3	2
Student-teacher relationship	70	49	17	4
Community engagement	2	0	2	0
Other international school involvement	1	0	0	1
International organization involvement	2	0	1	1
Local organization involvement	7	0	5	2
Family involvement	2	1	0	1
Instructional practice	5	5	0	0

Single pedagogical method	7	7	0	0
Single age groups	4	4	0	0
Teacher-centered	5	4	1	0
Student-centered (Personalized)	32	16	10	6
Challenge students	28	13	6	9
Mixed age groups	12	10	1	1
Mixing different pedagogical methods	27	15	9	3
Connection to real-life settings	26	3	17	6
Ways of assessment / feedback	5	2	3	0
Collaborative	27	15	5	7
Flexible	15	1	12	2
Creative	6	1	2	3
Positive outcomes	60	57	2	1
Negative outcomes	22	19	1	2
Yellow	21	1	5	15

## Discussion

This section is dedicated to discuss the results of MAXQDA analysis and classroom observations through the scope of OTL definitions. Firstly, safe learning environment is one of the elements of OTL, and for KAIS International School, the biggest factor of safety is appeared to be the relationship among students and teachers that eventually leads to their mental comfort of teaching and learning in the environment. As literature review described, educators who support all of their learners; healthy relationship between teachers and students; thoughtful and welcoming attitude among students; clean and organized classrooms; and students enjoy learning via stimulating projects and activities (Duncanson, Volple, & Achilles, 2009) are some of the signs of safe learning environments, and the results achieved through the interviews and observations significantly correspond to those indications. For instance, all the interview participants mentioned by some means the

positive relationship between students and teachers – the students especially mentioned how teachers are communicative, friendly, and approachable while teacher participants answered that they care about individual progress of students and try to be supportive whenever they need help. Moreover, almost all the participants stated about the close relation among pupils which is one important and prominent aspect of a safe environment as well as an ingredient of the sense of community. Size of the school, additionally, plays a significant role in terms of creating this positive relationship among people. All the student participants were previously enrolled at bigger and more traditional type of schools where individualized support and attention were not given enough; too many students were in the school and classrooms; and there was a clear line drawn between students and teachers. Every participant, including teachers and the principal, recognizes that the small-scale learning environment helps to build close relationship among individuals, teachers to be able to support learners closely, and to have better communications in general. The learning environment of observed classes, moreover, gave the impression of having culture of sharing own ideas and accepting others' – this could be an implication of non-traditionally structured healthy learning environment. As the literatures indicated, those traits that are observed strongly tie into the definitions of both ILE and OTL. Interestingly, when the student participants were describing about their previous schools, which are bigger than KAIS International School, the comments led to their opinions regarding negative relationships among students and teachers. This phenomenon could be interpreted that the size of learning environment could limit opportunities to build positive relationship among people who are involved in the learning community. As the participants mentioned, this small environment makes it easier to approach others; hence, they have more opportunities to get to know each

other in deeper level which create their mental comfort.

High quality learning resources is also one of the OTL definitions which KAIS International School fulfills through integrating technology into classes and utilizing MOOCs like Coursera through providing a laptop computer to each student. The results stated the flexibility and efficiency of integrating online resources such as Google Drive which encourage students to organize own work and access materials from anywhere to be able to work remotely. As numerous studies have claimed (Partnership for 21st Century Skills, 2009; Bransford et al., 2000; OECD, 2013), incorporating technology and online tools into education and learning how to use them practically are one great element of 21st century skills, which, according to the previous research (OECD, 2013), are one feature of ILE.

A key to increase the speed of pupils' learning, moreover, is to have opportunities to receive constructive feedback from teachers and peers (McNeil, 2008). As previous studies (McNeil, 2008; Bransford et al., 2000; Hattie, 2009, 2012) claimed, feedback is an essential component for effective teaching and learning activities. At KAIS International School, because of its small-scale classes and the close relationship amongst students and teachers, teachers could immediately check learners' progress and take actions when necessary. For example, in the observed writing class, the teacher went around and monitored each student how he/she is doing while working on an assignment. The teacher individually advised on their state of work and gave detailed feedback if students had specific questions or problems. The speech class, moreover, shows how not only the teacher but also the peers provide direct feedback to the presenter in order to help him/her improve. Teachers, additionally, make assessment process more flexible based on the case of individuals. Since each student has different previous knowledge, language skills, and speed of learning, teachers encourage

learners to be the best they can be instead of becoming the best in class. For that, there is an importance of being flexible when it comes to assess students. One assessment method they use at the school is to have students create their own portfolio to self-evaluate and see the progress of their work, which, according to Bransford and his colleagues (2000), is a crucial aspect of learners' metacognitive process since assessment should "reflect the *quality* of students' thinking, as well as what specific content they have learned" (p. 244). Flexibility in ways of assessment goes hand-in-hand with ILE, which is also an ingredient of quality teaching and learning.

Using various instructional strategies is another important OTL in ILE. In the case of KAIS International School, as the results explain, different instructional approaches were practiced. Teacher 1, for example, proactively takes students outside of school to make learning more interactive. As Walshaw (2012) previously mentioned, contexts used in instructions should be relatable to real-life circumstances, stimulating learners' engagement, and visualizing possible usage of knowledge: KAIS International School offers various opportunities such as the variety of field trips to expand the field of learning. Students at KAIS International School often times overcome their fears and weaknesses through learning in different circumstances – these real experiences are certainly harder to obtain inside of school especially if there were no varieties in instructional practices. According to the literature review of recent studies, it is clear that *how* students learn should be focused more than *how much time they spent* to learn. As Santibanez and Fagioli (2016) claimed, how students learn the material and subject matter heavily depend on teachers' traits of creating classes. According to the results, Teacher 1 likes to take students outside to have more connections to the real settings, to be more actively engaged with the community, and to

promote collaboration among students. Teacher 2 also explained the necessity of educators to be interesting and to have personal passions outside of work which bring depth into classes they teach. The results indicate that whatever students learn in school, the main goal is to utilize the knowledge and skills in their life – just adding information to pupils’ head certainly does not help achieving this goal. As said by OECD (2013), “it is a common feature of many innovative learning environments to make the learning experience authentic and meaningful by engaging students with real-life problems, offering hands-on experiences, and incorporating the students’ historical, natural, and cultural environment in learning activities” (p. 91). Most classes at KAIS International School, moreover, are structured with challenging group activities and projects to stimulate learners’ curiosity, and connecting the learning processes and outcomes to the real-life settings – the school offers numerous activities outside of classroom to make learning more interactive and simply fun.

Another essential element of instructional practice is to make learning student-centered instead of teacher-centered. According to Rubin and Hebert (1998), often times, learner-centered instructions involve collaborative learning which KAIS International School seemed well integrating into lectures and assignments. The results illustrate that these collaborative work helped students to be more communicative, motivated, responsible, and able to compromise. “Pedagogies that especially depend on inquiry and collaborative work”, according to OECD (2013), “explicitly prepare students for future learning” (p. 88). These pedagogical practices together with the use of technology closely tie into 21st century competences (OECD, 2013). As the result explains, student participants described how the teachers at their previous schools usually only give lectures to students in each grade which is strictly separated by their age. This is one significant sign of traditional learning environment

contrast to ILE.

For the meaningful interactions in classrooms, it also seems to be connected to the relationship among students and teachers. As the results showed, the principal wants students to be challenged through encountering different views and ideas to expand their perspectives. To achieve this, he tries to ask questions which make pupils think critically and flexibly instead of providing them information or guidance immediately. Students are also open to different opinions even if they were opposing ideas. The relationship among students and teachers, therefore, is crucial to this activity – to respect others and feel comfortable sharing own thoughts lead to valuable interactions. As Walshaw (2012) described, teachers who play a role as a conductor in an orchestra could help creating meaningful classroom communications, which KAIS teachers have successfully done through inquiry based and student-centered instructions. Additionally, the low student-teacher ratio KAIS International School maintains encourages active interactions in class (Gillies & Quijada, 2008).

In terms of school climate and disciplinary atmosphere, researchers like Duncanson, Volpe, and Achilles (2009) claimed that positive student-teacher relationships create healthy school climate. According to the results of interviews and classroom observations, strong and positive relationship between teachers and students was indicated. Every interview participant mentioned about the good relationships and mental comfort that comes from this bond. Furthermore, most of the student participants stated that they could talk with their teachers like friends, which help them to be comfortable to ask questions and discuss further in class – these phenomenon, in fact, were identified quite frequently during the observation sessions. However, despite the friendly relationship between students and teachers, the school keeps discipline manners in order to comprehend important social skills. One example is that



KAIS International School strictly prohibits students to use other languages except English – reason behind that is to speak the language that everyone can communicate and avoid having groups based on cultures. The school also strictly prohibits the use of devices inside of the building. This is to prevent students to stay in their own world and not interacting with others. It would have been quite challenging to impose these rules in bigger schools simply because of high student-teacher ratio which makes it difficult to pay close attention to each student. Yet, at KAIS International School, it is easier to enforce certain rules because of its size, and as the results show, the size and the student-teacher relationship prevent bullying.

According to the results, the expectations of teachers and the principal toward pupils' learning are set high. As the results indicate, KAIS International School is a place where students who are self-motivated could thrive. The teachers also share their expectations with students through classes to have mutual understanding about what teachers expect students to do and what students need to do to achieve it. For instance, in the writing class, the teacher explained the students before starting the class what are objectives of the lesson and what she expects everyone to do and know at the end of the class so that everyone in the room has a clear vision of what they will learn and are expected to do further. As OECD (2015) stated, this “sharing expectation” is a vital aspect of successful learning. The students seemed positively respond to those expectations: almost all the student participants stated about being more motivated to work for better results since they appreciate the teachers' intensive support.

According to the OTL definitions, physical space is also an aspect to consider. In case of KAIS International School, all the tables and chairs are movable and have unique shapes – this flexibility allows learners to be interactive and collaborative. The physical size

of the school is small, yet, teachers try to expand the learning environment by taking students outside and different facilities since movement positively influences pupils' interactions and encourage active learning which develop them as life-long learners (Sousa, 2006; Sprenger, 1999). However, larger schools, according to the participants, their physical movements were restricted since they had to sit still in class during lectures which connects to the aspect of having single pedagogical method which is usually non-interactive. The results also revealed that learners' physical comfort and interactions are connected to the smaller class size.

Lastly, family and community involvement is a significant OTL which KAIS International School successfully provides for students. The results illustrate the impact of community involvement in learning especially relating the experience to real-life settings. A curriculum like leadership enhances pupils' leadership skills through interacting with local community. As Dowd, Friedlander, and Guajardo (2014) discussed, learners' opportunity to learn should not be limited to the inside of school – KAIS International School indeed seeks to expand the chance for learners to relate themselves to the community they live in.

According to the analysis, the student participants perceived negatively about their previous schools, which were more traditional form of learning environments, academically and socially which brought them some negative outcomes. Interestingly, there were no negative comments about KAIS International School made by the participants – all the non-positive responses were toward other learning environments where the participants used to be involved. All things considered, KAIS International School covers the most of influential educational practices for effective learning opportunities which were proven by meta-analysis done by Hattie (2009) such as clear teacher instruction, student-teacher relationship, formative assessment, small-scale teaching, meta-cognitive approaches, creative

curriculums, and so forth. This also indicates that the school provides more than the fundamental OTL for learners. As the Partnership for 21st Century Skills (2009) described, learning environments must be a place where everyone knows each other not only as people to share the academic experience but also deeper in social level. Learning environment should promote positive interactions among students and teachers, collaboration, cooperation, and create openness which prevent possible strains that could cause bullying among students (Partnership for 21st Century Skills, 2009). As the results portray, KAIS International School – an example of ILE – fits to those descriptions. The theoretical background of ILE and OTL as well as the results of this study demonstrate that these two concepts seemingly coexist: they cannot be established without one another.

### **Conclusion**

This study was to explore the role of ILE in regards to students' OTL. In order to systematically do so, qualitative analysis was conducted at an international school in Japan through classroom observations and in-depth semi-structured interviews together with thorough literature review. The literature review revealed the important elements of OTL and ILE, previous research, and intersecting aspects of these two concepts. This knowledge contributed to grasp the notion of the possible relationship between OTL and ILE. As maintained by the theoretical background drawn from the literatures, both concepts share notably similar elements; hence, it is feasible to interpret that ILE provides more complex and delicate level of opportunities for students to learn. To verify this strong assumption, empirical data was analyzed with MAXQDA, and the results indicated that KAIS International School brings more complex and delicate OTL as defined in the theoretical background, and how all the elements of OTL interrelate together. For example, the size of

class has an effect on teachers to give students personalized feedback and support as well as to build the close relationship with pupils. According to the analysis, ILE like KAIS International School plays an important role for their students' OTL, and the people who involve in this learning environment recognize the opportunities that they are giving or/and receiving, and share similar educational values. Additionally, the findings indicate that ILE and OTL actually coexist: ILE cannot be established if there were no complex and delicate OTL provided in the learning environment, and those higher level of OTL cannot be provided through traditional learning environment.

Obe (2004), in his report, has summarized what learning is for, and it reflects what KAIS International School seemingly practicing for their learners:

The current period of rapid change in our learning environments requires us to develop a coherent view of the future by reconsidering the nature and purposes of learning. . . . the challenge for education is not only to provide access to information, but to help people learn to think, and to enable them to operate effectively within this rapidly changing and increasingly complex world. More than ever, education will need to enable people to become effective learners, to be able to encounter new experiences, unfamiliar ideas and changing conditions confidently and creatively. In the wider sense it should also develop collaboration, a sense of community and shared responsibility. (p. 10)

### **Limitation of the Study**

Since the study examined only one school in one country, the results certainly do not represent the whole ILE population – it is one in-depth, explicit example of ILE to

demonstrate the role and significance of this type of environment in terms of students' learning opportunities. Additionally, purposive sampling method applied during sample selection procedure might limit the variation of participants' opinions. Another concern of the study is potential biases in interpreting the results since I used to be involved with the school as an employee. The fact that the sample school is an international school might be a limitation as well since not everyone has access to this environment at least in Japan due to the financial demands and language barrier. Culturally diverse environment, moreover, might have an effect on the results of the study since the student might be accustomed to accept different views of people and learning practices. Therefore, these factors can be limitations of the study which have to be taken into account.

### **Future Recommendations**

This study has introduced a new aspect of ILE research by focusing on its OTL for learners. Since it is just a first step to combine these two concepts together in the same study, this perspective could be extended to multiple directions. Hence, to develop this area of research, few things should be considered. First, in order to make the results more generalizable, it is crucial to have bigger sample population (e.g., number of participating schools and participating individuals from each school). Additionally, having those samples from various regions would add a variety in the study. Considering actual test or assessment scores of students from ILE could be another way to develop this study in order to help understand the impact of ILE on academic level more objectively. To elaborate more in depth, comparative method might be adopted to determine the difference between traditional learning environments and ILE in terms of learning processes, social interactions among students and teachers, their outcomes, and overall differences in OTL – this comparison

promotes results to be more persuasive to explain the significance of ILE. Moreover, another approach could be a longitudinal study – observing students in ILE for a longer period of time may allow researchers to see the true impact of learning environments. For example, the study could see how pupils progress overtime in ILE and how the experience influences them after graduating the school and be in the society. Thus, the topic has extensive potential to grow and contribute to the future studies in the field of education. Since we live in the 21st century and are the ones responsible for reconsidering and reconstructing our education system to be more appropriate in the fast growing society we live in, these two concepts will hold significant position in those processes.

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## Appendix A

## Original Interview Instrument Before Pilot Study: Principal

## Introduction Statement

- Short introduction of the research and interview session including the purpose, duration, how it will be conducted, and confidentiality
- Mention about recording the interview sessions

## Demographic Questions

- DQ1. What is your name, position, and age?
- DQ2. How long have you been working at KAIS International School?
- DQ3. What was your role at KAIS International School before becoming a principal?
- DQ4. Please provide brief overview of your career before joining KAIS International School.

## Open-ended Key Questions

- KQ1. What are the important (essential) facets of KAIS Int'l School's educational philosophy?
- KQ2. What do you consider as KAIS Int'l School's learning environment? 【To see if the principal believes learning could happen outside of school – “environment” does not mean “classroom”】 Why & how do you provide?
- KQ3. How does KAIS Int'l School integrate community resources to the regular classes?
- KQ4. How does the learning space/environment of KAIS Int'l School encourage/support students' active engagement and collaboration while working in class?
- KQ5. How does KAIS Int'l School consider creativity, and what kind of role the environment plays for it?
- KQ6. How do you define “teacher”?
- KQ7. How KAIS Int'l School's conditions (curriculum, instructional quality, and time & resources) promote learning, and provide students with adequate opportunities to learn?

## Closing Statement

KQ8. If there are something to improve KAIS Int'l School' teaching & learning environment/space, what would that be and why?

- Ask for additional comments  
*“Is there anything you would like to add?”*
  - Thank the interviewee for the time
-

## Appendix B

## Original Interview Instrument Before Pilot Study: Teacher Participants

Introduction Statement	<ul style="list-style-type: none"> <li>➤ Short introduction of the research and interview session including the purpose, duration, how it will be conducted, and confidentiality</li> <li>➤ Mention about recording the interview sessions</li> </ul>
Demographic Questions	<p>DQ1. What is your name, current position, and age?</p> <p>DQ2. How long have you been working as a teacher?</p> <p>DQ3. How long have you been working at KAIS Int'l School?</p> <p>DQ4. Which subject do you teach?</p> <p>DQ5. Please provide brief overview of topics that you are covering this semester/school year?</p>
Open-ended Key Questions	<p>KQ1. How do you define “teacher”?</p> <p>KQ2. How do you use your classroom (seating assignment, etc.) when having lessons? And why do you choose that way over the other ways?</p> <p>KQ3. How the conditions (curriculum, instructional quality, and time &amp; resources) of your class promote learning, and provide students with adequate opportunities to learn?</p> <p>KQ4. How do you recognize individual learning differences in class?</p> <p>KQ5. What are the important aspects of learning environment/spaces in order for students to maximize their learning outcomes in the subject topics?</p> <p>KQ6. How does the learning space/environment of KAIS Int'l School support/encourage students' active engagement and collaboration while working in class?</p> <p>KQ7. If there are something to improve KAIS Int'l School' teaching &amp; learning environment/space, what would that be and why?</p>



## Closing Statement

- Ask for additional comments  
*“Is there anything you would like to add?”*
  - Thank the interviewee for the time
-

## Appendix C

## Original Interview Instrument Before Pilot Study: Student Participants

## Introduction Statement

- Short introduction of the research and interview session including the purpose, duration, how it will be conducted, and confidentiality
- Mention about recording the interview sessions

## Demographic Questions

- DQ1. What is your name, age, and which grade are you currently in?
- DQ2. How long have you been studying at KAIS Int'l School?
- DQ3. What subjects do you currently take?
- DQ4. Which <What kind of> school were you in before joining KAIS Int'l School?

## Open-ended Key Questions

- KQ1. What were the major reasons to choose KAIS Int'l School over other schools?
- KQ2. Could you briefly describe how is your school day like? (Flow of the day)
- KQ3. How do you describe KAIS Int'l School's learning environment? And what are some unique features of KAIS Int'l School's learning environment?
- KQ4. How does the learning space/environment of KAIS Int'l School support/encourage you and your peers to collaborate while working in class?
- KQ5. What are the distinctive characteristics KAIS Int'l School has (from your point of view)?
- KQ6. What are the important factors for learning environment to have to maximize your and your peers learning?
- KQ7. If there are something to improve KAIS Int'l School' learning environment/space, what would that be and why?

## Closing Statement

- Ask for additional comments
    - “Is there anything you would like to add?”*
  - Thank the interviewee for the time
-

## Appendix D

## Final Version of Interview Instrument: Principal

Introduction Statement	<ul style="list-style-type: none"> <li>➤ Short introduction of the research and interview session including the purpose, duration, how it will be conducted, and confidentiality</li> <li>➤ Mention about recording the interview sessions</li> </ul>
Demographic Questions	<p>DQ1. What is your name, position, and age?</p> <p>DQ2. How long have you been working at KAIS Int'l School?</p> <p>DQ3. What was your role at KAIS Int'l School before becoming a principal?</p> <p>DQ4. Please provide brief overview of your career before joining KAIS Int'l School.</p>
Open-ended Key Questions	<p>KQ1. What are the important facets of KAIS Int'l School's educational philosophy?</p> <p>KQ2. What do you consider KAIS Int'l School's learning environment → {Encourage the principal to provide examples of OTL at KAIS to help the researcher gaining a better understanding of the learning environment}</p> <p>KQ3. How does KAIS Int'l School's learning environment encourage students' active engagement and collaboration while working in and out of class?</p> <p>KQ4. What is the most important facet you look for the current &amp; future KAIS teachers and students?</p> <p>KQ5. How does KAIS Int'l School provide safe environment for students and teachers? / How does KAIS Int'l School provide OTL for students and teachers?</p> <p>KQ6. What kind of skills do you want the students to gain through learning at KAIS Int'l School?</p>
Closing Statement	<ul style="list-style-type: none"> <li>➤ Ask for additional comments</li> <li>➤ Thank the interviewee for his time</li> </ul>

## Appendix E

## Final Version of Interview Instrument: Teacher Participants

Introduction Statement	<ul style="list-style-type: none"> <li>➤ Short introduction of the research and interview session including the purpose, duration, how it will be conducted, and confidentiality</li> <li>➤ Mention about recording the interview sessions</li> </ul>
Demographic Questions	<p>DQ1. What is your name, current position, and age?</p> <p>DQ2. How long have you been working as a teacher?</p> <p>DQ3. How long have you been working at KAIS Int'l School?</p> <p>DQ4. Which subject do you teach?</p> <p>DQ5. Please provide brief overview of topics that you are covering this semester/school year?</p>
Open-ended Key Questions	<p>KQ1. What do you consider to be teacher's necessary competencies? / What competencies do teachers need to have?</p> <p>KQ2. How does KAIS Int'l School provide safe environment for you to teach, and how do you provide safe environment for students to learn in class?</p> <p>KQ3. What do you bring into your class to foster students' learning? / How does your recognitions of varying students' ability levels affect curriculum design?</p> <p>KQ4. What kind of skills do you want your students to gain through learning at KAIS Int'l School?</p> <p>KQ5. How does KAIS Int'l School's learning environment encourage students' active engagement and collaboration while working in and out of class?</p>
Closing Statement	<ul style="list-style-type: none"> <li>➤ Ask for additional comments <i>"Is there anything you would like to add?"</i></li> <li>➤ Thank the interviewee for her/his time</li> </ul>

## Appendix F

## Final Version of Interview Instrument: Student Participants

## Introduction Statement

- Short introduction of the research and interview session including the purpose, duration, how it will be conducted, and confidentiality
- Mention about recording the interview sessions

## Demographic Questions

DQ1. What is your name, age, and which grade are you currently in?

DQ2. How long have you been studying at KAIS Int'l School?

DQ3. What subjects do you currently take?

DQ4. Which <What kind of> school were you in before joining KAIS Int'l School?

## Open-ended Key Questions

KQ1. What was the major reason to choose KAIS over other schools and what makes KAIS different from your previous school(s)?

KQ2. How do you describe KAIS Int'l School's learning environment? / How does KAIS Int'l School provide safe environment for you and other students to learn?

KQ3. How does KAIS Int'l School's learning environment encourage you and your peers to collaborate in and out of class?

KQ4. What kind of skills have you gained through learning at KAIS Int'l School (and how has it helped you for gaining them)?

## Closing Statement

- Ask for additional comments  
*"Is there anything you would like to add?"*
- Thank the interviewee for her/his time

## Appendix G

## Annual Tuition Fee of KAIS International School

Tuition	¥1,815,430 (€13,665.44)
Registration Fee (one-time)	¥216,000 (€1,625.92)
Course Materials	¥524,570 (€3,948.64)
School Trip Fee & Event Fee	¥95,040 (€715.40)
<b>Total Amount of the First Year</b>	<b>¥2,651,040 (€19,955.40)</b>

\*Including 8% Tax

## Appendix H

## KAIS International School Course Offerings (2016-2017)

<u>English</u>	<u>Science</u>	<u>Math</u>	<u>Social Studies</u>	<u>P.E.</u>	<u>Foreign Language</u>	<u>Electives</u>	<u>Creative Studies</u>	<u>Other</u>
English 9	Biology	Algebra I & II	Economics	Fitness	Japanese Grammar	Leadership	Drawing	College Bound
English 10	Chemistry	Geometry	U.S. Government	Yoga	Japanese Academic Writing	Life Skills	Music	
English 11 – American Literature	Physics	Pre-Calculus	U.S. History				Robotics	
English 12 – British Literature	AP Biology	AP Calculus ABI	World History					
	AP Chemistry	AP Statistics	AP U.S. History					
	AP Physics		Medieval History					



Appendix I  
Class Schedule (2016-2017) of Each Grade

<u>9th Grade</u>	<u>Monday</u>	<u>Tuesday</u>	<u>Wednesday</u>	<u>Thursday</u>	<u>Friday</u>
9:55-10:43	Chemistry Lab	Medieval History	Japanese or Leadership	Creative Studies	Japanese or Leadership
10:46-11:34		Reading Comprehension	Japanese or Leadership		Japanese or Leadership
11:37-12:25	Writing	Chemistry	Medieval History	Medieval History	Study Hall
13:20-14:08		Math	Fitness	Vocabulary	Math
14:11-14:59	Fitness	Japanese or Fitness	Chemistry	Chemistry	Medieval History
15:02-15:50	Japanese	Japanese or Fitness	Math	Math	English Literature
<u>10th Grade</u>	<u>Monday</u>	<u>Tuesday</u>	<u>Wednesday</u>	<u>Thursday</u>	<u>Friday</u>
9:55-10:43	Chemistry Lab	Reading Comprehension	Japanese or Leadership	Creative Studies	Japanese or Leadership
10:46-11:34		World History	Japanese or Leadership		Japanese or Leadership
11:37-12:25	Japanese	Math	Fitness	Vocabulary	Math
13:20-14:08	Fitness	Chemistry	World History	World History	Study Hall
14:11-14:59	Writing	Japanese or Fitness	Math	Math	English Literature
15:02-15:50		Japanese or Fitness	Chemistry	Chemistry	World History
<u>11th Grade</u>	<u>Monday</u>	<u>Tuesday</u>	<u>Wednesday</u>	<u>Thursday</u>	<u>Friday</u>
9:55-10:43	Writing	Chemistry	Chemistry	Chemistry	US History
10:46-11:34		Math	Math	Math	Math
11:37-12:25	Fitness	Japanese or Fitness	Japanese or Leadership	Creative Studies	Japanese or Leadership
13:20-14:08	Japanese	Japanese or Fitness	Japanese or Leadership		Japanese or Leadership
14:11-14:59	Chemistry Lab	US History	US History	US History	College Bound
15:02-15:50		Reading Comprehension	Fitness	English Literature	Vocabulary

<u>12th Grade</u>	<u>Monday</u>	<u>Tuesday</u>	<u>Wednesday</u>	<u>Thursday</u>	<u>Friday</u>
9:55-10:43	Japanese	Math	Math	Math	Math
10:46-11:34	Fitness	Chemistry	Chemistry	Chemistry	US Government & Economics
11:37-12:25	Writing	Japanese or Fitness	Japanese or Leadership	Creative Studies	Japanese or Fitness
13:20-14:08		Japanese or Fitness	Japanese or Leadership		Japanese or Fitness
14:11-14:59		Reading Comprehension	Fitness		Vocabulary
15:02-15:50	Chemistry Lab	US Government & Economics	US Government & Economics	English Literature US Government & Economics	College Bound

## Appendix J

Schedule of Individual Interview Sessions for Student Participants

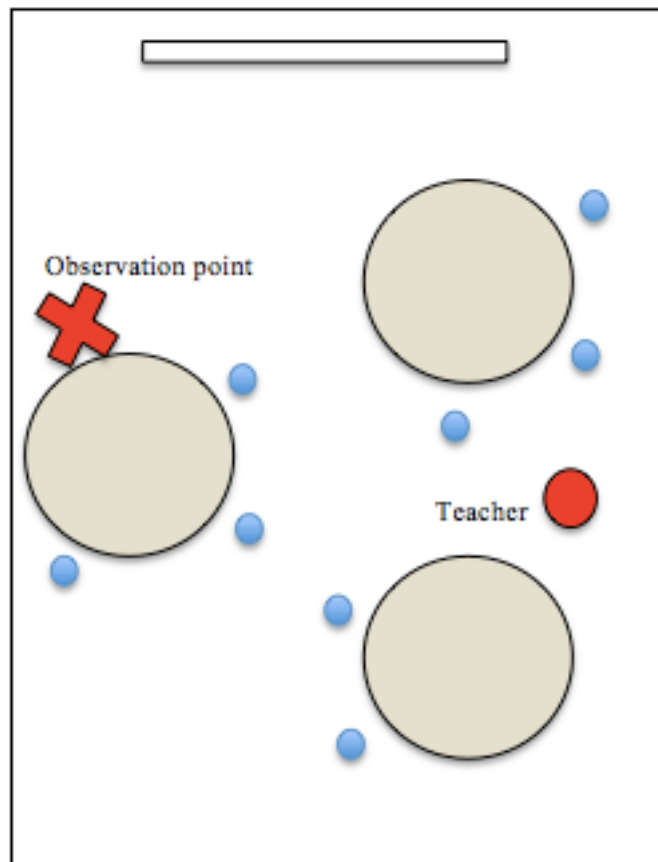
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	<u>March 27th, 2017</u>	<u>March 30th, 2017</u>
9:20-9:40	Student 5	Student 8
13:00-13:20	Student 6 Student 3	Student 2 Student 1
16:10-16:30	Student 4	Student 7

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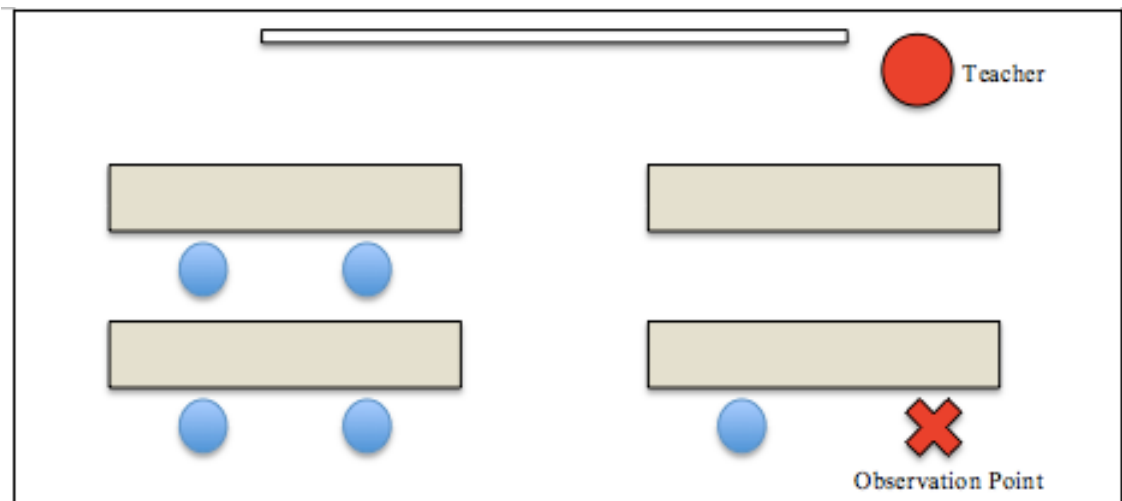
## Appendix K

## Illustration of the Classroom Layout From the First Observation



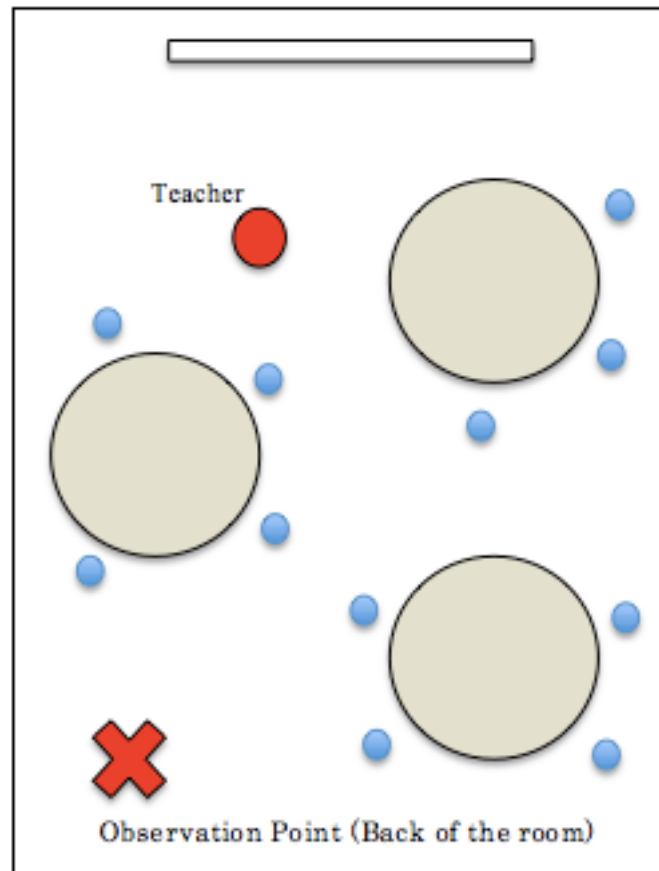
## Appendix L

## Illustration of the Classroom Layout From the Second Observation



## Appendix M

## Illustration of the Classroom Layout From the Third Observation



## Appendix N

## Illustration of the Classroom Layout From the Fourth Observation

