

## **Researching Learning and Teaching Modalities and its Impact on Active Language Learning**

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### **Abstract**

This paper focuses on the introduction of new learning spaces and their influence on enhancing active learning and curriculum development at a private university in Tokyo. Research on effective learning spaces often address the integration of physical space attributes into pedagogy to promote learner engagement through active and interactive styles. A major renovation of the building housing the English as a Lingua Franca (ELF) language program took place in Fall of 2015 after a year of extensive meetings among international faculty members, university administrators, and outsourced interior designers in creating new classroom learning configurations that best enhances optimal active learning and support best practices for an English language curriculum. After occupancy in Spring 2016, the presenters started a project to assess the affordances of the new learning spaces and its effect on students' perceived learning of English and teachers' pedagogical shifts by taking a closer look at the relationship between specific attributes of the learning environments such as aesthetics, furniture, and technology to name a few. Specifically, teacher's pedagogical choices and student's perceptions of their new learning environments were uncovered through students' open-ended comments, teachers' open-ended comments, and online surveys to 1,717 students and 20 teachers. The analysis of the data indicates a positive correlation on how the new spaces directly enhanced active learning but also reveals best teaching modalities in expanding their pedagogical repertoire toward student-centered learning, 21st century skills, project-based learning and other collaborative approaches.

**Keywords:** Active Learning, Learning Spaces, Curriculum Development, Learning Environment

### **Introduction on Learning and Teaching Modalities**

Researching how learning and teaching modalities impact on learning is resourcefulness and indispensable for teachers, educators and researchers especially in a language learning environment as it is mentioned by OECD that the learning environment is increasingly significant (Kuuskorpi, M. and N. Cabellos González, 2011). The classroom attributes to students learning may imperatively increase students learning attitude and performance. The OECD (Kuuskorpi, M. and N. Cabellos González, 2011) defines “educational space” as “a physical space that supports multiple and diverse teaching and learning programmes and pedagogies” including the classroom attributes significantly contribute and facilitate not only students effective learning but also teacher teaching methodology. The physical learning environment is an influential element in the complex and highly contextualized nature of learning (OECD, 2017). According to the physical learning environment is an influential element in the complex and highly contextualized nature of learning, characterized by dynamics and interactions between the learner, teacher, pedagogy, equipment and technologies.

Traditional style lecture based teaching still dominates university teaching in Japan. These lectures are often taught in large classrooms accommodating over fifty students with stationed tables and chairs that often constrain the teacher from selecting different modalities in teaching. Also, students are physically and socially constrained to passive learning styles. Björkman (2013, p.156-157) defines a lecture as “traditionally long stretches of monologic speech events, which does not allow for opportunities for pragmatic speech” and monologic approaches risk communicative effectiveness of the speakers and deter from maneuvering and making use of discursive strategies. These types of “monologic events where the listener has very few opportunities if any to check his/her own understanding is where misunderstandings are most likely to occur” (p. 182). In retrospect, the English language classes held in these traditional lecture halls are detrimental to students’ communicative development and its ability to transfer knowledge beyond the classroom walls. Other literature on the distinct differences between passive and active learning is recognized in Hake’s (2002) comparative study on traditional vs. active learning as findings acknowledged that students taught through active group-work methods learned two to three times more than students taught through traditional lecture methods.

Active learning is defined as the methodology to focus on giving students a collaborative and engaging activity which simultaneously requires deeper learning. In language tasks, examples of active learning take place when students interact with written texts, or audio/video materials in which they are not asked for regurgitating information, but instead to further discuss, and include a level that promotes analysis, synthesis, and evaluation of class content (Bonswell & Eison, 1991). By understanding the current issues of learning space as not only as a physical barrier but as a mental barrier to educational growth, the higher education institutes must transpire for changes. Thus, in order for active learning to work at its best, the outdated spaces needed to be recognized as one of the major constraints for learning.

Research on deeper learning dispositions address the gaps between what students are learning in the classrooms, and what employers expect from them. Seven dispositions are mentioned by Wagner (2008) as the Seven Survival Skills from the Global Achievement Gap and include critical thinking and problem solving, collaboration across networks, agility and adaptability, entrepreneurialism, effective oral and written communication, assessing and analyzing information, and curiosity for imagination.

Taking these barriers into consideration, our private Japanese university took proactive measures by deciding to go under major physical renovation of their English language building. The building originally housed several mid and large sized lecture rooms that were multi-purpose and multi-department use classrooms.

These rooms accommodated approximately sixty to over one hundred students and had fixed long tables and chairs in a lecture style room facing a chalkboard and a podium. The English language courses minimized the number of students for communication effectiveness and had a maximum of 25 students per class, so these vast created an awkward distance between the students and the teacher (Figure 1).



Figure 1: lecture style room facing a chalkboard and a podium

A university appointed committee consisting of four English teachers, several administrators, and outsourced interior design consultants met several times over eight months to discuss ideal ways to improve the building with a focus on English language education. First, several smaller-sized classrooms (38-49 square meter rooms) for a maximum of 27 students were created. This was in response to the nature of the language communication based courses which need close proximity between the teacher and the students. Each room was equipped with the latest ergonomically designed movable chairs with attached desks, short-range projectors, WiFi, length-of-the-room whiteboards and speakers (Figure 2).



Figure 2: short-range projectors, length-of-the-room whiteboards and speakers

The ergonomic-friendly chairs made an immediate effect on the modalities of teaching, as teachers could easily reconfigure the layout of the classrooms. The change to the mobile chairs facilitated the transformation from a traditional classroom into a more interactive and dynamic teaching and learning environment. Also, the chairs were modern with five vivid colors and allowed for classroom management to run smoother for teachers by being able to

form random groups by grouping chair colors together. Random grouping is an ideal way for students to work with new peers and brings with it a fresh outlook. The classroom could change to multiple modes during one class to support the activity (Figure 3).



Figure 3: the ergonomic-friendly moveable chairs

In the new style, lessons shifted to group-based approaches. Also, random pairing and grouping increased rapport among all of the students. The closer proximity between the teacher and the student allowed for a free flow of information and a role of a mentor rather than only a teacher. Active learning teaching methodology including project-based learning (PBL) and problem based learning replaced textbook and formal teacher lectures and opening up a more interactive and dynamic teaching repertoire. From the learner's perspective, students had increased autonomy and direct control over how content was learned and who they chose to learn from. The healthy and respectful relationship among the students and teacher resembles real-world attributes of effective communication that is essential in the workforce. The active learning style of the tasks also shadowed real-world situations in which group work challenged one's leadership abilities in tackling difficult issues and productive teamwork skills arising from conflict resolution.

These skills lead directly to 21st Century Skills. The Partnership for 21st Century Learning is a coalition comprised of business leaders, policy makers, and education leaders addressed a framework to address the readiness skills necessary in preparing students for college, life, and career. Soule, an executive at Partnership for 21st Century Learning mentioned the 4Cs of 21st Century Skills (Partnership for 21st Century Learning, 2013) which included collaboration, critical thinking, communication, and creativity (Paterson, 2013) as the crucial skills. The renovation of the learning spaces led to student-focused learning, development of 21st century skills, and more active learning methods and has impacted our students and teachers English learning and teaching experience.

This research aims to answer the following research questions:

- 1) Is there a strong relationship between effective learning spaces and the impact on English learning experience?
- 2) Is there a strong relationship between effective learning spaces and the impact on selection of English teaching approaches (i.e. active learning and other collaborative learning modes)?

### Methods of Research

Survey based investigations were implemented in the assessment of learning and teaching modalities and its impact on active language learning. To gather the data on students' opinion on the impact of the new learning spaces to effective learning for teachers to choose their methodologies, two sets of 5 point Likert scale electronic based, online surveys for students and teachers were created.

New questions were added to students' end-of-semester survey to ask students about the attributes for learning spaces which include: 1) physical environment: classroom dimensions, students per teacher ratio, classroom size, technology (projector/lan /Wifi) 2) classroom furniture: flexible configuration, mobility

The study also took into consideration a view from teachers who were utilizing the new learning spaces. For the teacher survey, the questions about the attributes for their choices of teaching methodology were asked. The teacher survey was created for investigating the perceptions of value and its impact on classroom approaches. This part of the questionnaire asked teachers about their pedagogical choices such as active learning, group work, pair work, and other classroom approaches such as project-based learning, and technology-use such as CALL, Blackboard management system.

The two groups of participants in this study were: a) 1,921 university students who took an English course in the spring semester of 2017 academic year. The students belonged to 8 colleges, 18 departments both in Liberal Arts and Science fields. b) Twenty teachers from a total of 43 who were teaching and voluntarily participated in the digital survey in spring semester of 2017

### Findings

For evaluating the students' perspectives on the learning space satisfaction, two items, the classroom size and the classroom's chair were included in the student survey. Students were asked to rate their satisfaction for their new learning environment. Based on the surveys administered to 1,931, 88.06% of the 1,707 students who responded to the survey, stated satisfaction for the new learning space, among them 35.93% revealed that they were very satisfied with the facilities. It also can be seen in Table 1 that the majority of the students, 87.74% were satisfied with the ergonomically designed mobile chairs in the classroom (Table 1).

	Very satisfied	Satisfied	Somewhat satisfied	not satisfied	not satisfied at all	N/A	Total	Weighted average
a. Classroom	36.93% 617	37.39% 642	14.78% 253	9.78% 168	1.86% 32	0.29% 5	1717	2.03
b. Classroom chairs	34.19% 487	35.06% 602	17.47% 300	9.67% 46	2.68% 46	0.93% 16	1,717	2.09

Table 1 the students survey results for students' satisfaction on learning facilities (N=1,717)

Regarding the impacts of learning space on students' learning experience, the number of students' which was 1,512 (N=1,717) or 89.1% of the total number of the students' indicated somewhat to impact on classroom to their learning. Comparatively to the satisfactory survey, the impact of classroom chairs was also investigated. The survey revealed only a few participants were not satisfied with the classroom's furniture while more than 93% indicated an impact on flexible seating in the new learning environment impacted their learning from great to moderate extent (Table 2).

	Very satisfied	Satisfied	Somewhat satisfied	not satisfied	not satisfied at all	N/A	Total	Weighted average
a. Classroom	36.93% 617	37.39% 642	14.78% 253	9.78% 168	1.86% 32	0.29% 5	1717	2.03
b. Classroom chairs	34.19% 487	35.06% 602	17.47% 300	9.67% 46	2.68% 46	0.93% 16	1,717	2.09

Table 2 The impacts of learning space to the students' learning experience (N=1,717)

The new learning and teaching modalities also had a marginal significance to teachers' pedagogical approaches and were reflected in the teacher survey results as seen in Table 3. From the teacher surveys, whole-class lecture approach was indicated as highly valued by 70%. Only 5% of the teachers mentioned the whole-class lecture as the least valued pedagogical practice. While group work was highly valued by 95% of the English teachers and 5% with moderate value, no one marked least valued nor not as valued.

For assessing the impact of learning and teaching environment to the teacher choices of pedagogical methods, pair work was either highly valued or valued by 100%. All of the teachers revealed the strong relationship between effective learning spaces and the impact on selection of English teaching approaches. The active learning method such as project based learning was both highly valued and valued at 45% and only 10% mentioned this pedagogy moderate valued (see table 3).

Spring 2017 N= 20	Highly valued-----5-----4-----3-----2-----1----Least valued				
Whole-class lecture	25% 5	45% 9	10% 2	15% 3	5% 1
Group work	70% 14	25% 5	5% 1	0	0
Pair work	70% 14	30% 6	0	0	0
Project based learning	45% 9	45% 9	10% 2	0	0
Learning management system	25% 5	45% 9	15% 3	0	15% 3

Table 3 the impacts of classroom to teachers' teaching (N=20)

## Discussion

In the survey and the investigation, the students' revealed their satisfaction on the new learning space in the smaller-sized classrooms which were equipped with the latest ergonomically designed movable chairs with attached desks, short-range projectors, WiFi, length-of-the-room whiteboards and speakers. The evidence showed a significant link between student satisfaction on learning spaces and its impact on their language learning. In this study, the preponderance number of students' illustrated the compelling impact of their learning modalities on their learning experience which is in conjunction with Byers' (2005) position. In his research on the empirical evaluation of the transition from traditional to new generation learning space, he addressed the changes of the learning spaces to become more "effective and efficient" to students' movement through their learning activity and had a significant effect on the students' learning (p. 39).

The result from the student survey on satisfaction of classroom furniture indicated that more than 93% of the students thought the ergonomic-friendly chairs had a significant impact on significantly on their learning. In addition, the ergonomic-friendly chairs made a compelling effect on the modalities of the 21st century learning such as active and task-based learning. This flexible seating allowed students to study in pair, in group or as a whole class in their new learning environment. Kuuskorpi, M. and N. Cabellos González (2011) supported that the dynamic physical learning environment is needed and the possibility to adapt the class furniture to different configurations fosters students' learning. The collation also can be seen in Alastair's (2015) study, where he mentioned that there are now "literature that supports and verifies the benefits of designing and building new learning environments" (p. 74).

The new modalities, mobile furniture and refurbished buildings not only impact students' learning but also on teacher's choice of pedagogy. While the majority of the students indicated an impact on flexible seating in the new learning environment impacted their learning, all of the teachers revealed the strong relationship between effective learning spaces, furniture and the impact on selection of English teaching approaches. This newly renovated building and the new learning spaces allowed a wider range of learning activities than previously was possible (Yujobo, Y.J., Chaikul, R., & Hsu, J.,2017). All in all, the new language classrooms configuration provided best learning environment possible to promote student active learning as well delivering the pedagogical advantage to teachers.

### **Conclusion**

This study set out to identify a strong relationship between effective learning spaces and the impact on English learning experience and its relationship between effective learning spaces and the impact on selection of English teaching approaches. The evidence from student and teacher surveys reveal the significant link between the effective learning spaces and had an impact on students' learning experiences and teachers' pedagogical teaching approaches. The research was based on these new renovated learning spaces and the impact that it had on perceived learning because there had been very little rigorous academic research into the design and effectiveness of learning environments and there are few researchers that have linked the relationship on the effective attributes of a classroom to impact on language learning and teachers' pedagogies. The results of the study highlighted several key components related to learning and teaching modalities and its impact on students' language learning namely the students' satisfaction of the learning space and classroom facilities and the impact of learning space to their learning experience. The researchers, educators, schools and education policy makers could benefit from this study.

Though it appears that the new learning and teaching modalities have an impact on students' active learning and teachers' choices of pedagogical teaching method, there is still a need for deep understanding through focus group discussions regarding the effectiveness of learning environments and how it can enhance students' learning, motivation and achievements. Cleveland and Fisher (2014) stated that the creation of innovative learning environments encouraged the researchers to study methods for evaluating the effectiveness of educational facilities. Furthermore, a more detailed research of the relationship between specific attributes of the learning environments (i.e. aesthetics, furniture, technology, and etc.) and pedagogies are needed. Moreover, the study of the linkage between the modalities and its impact on teacher's teaching approaches should also be further investigated through focus group discussions. Finally, the continuum of scholarly research through collection of more data sources by conducting more focused questionnaires in order to utilize the new learning spaces to its fullest potential.



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