

The Method of Agile Pattern Creation for Campus Building: The Keio-SFC Experiment

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In this paper, we address the method and practice of continuously creating pattern language in any phase of designing the campus, as an agile design method involving the campus users. The process of creating pattern language grasps and discloses discoveries and findings in campus planning, enabling all the users to pursue their ideal campus. The patterns that were shaped can be categorized into three domains; architecture and landscape, educational programs, and internal activities for campus planning. This paper also adopts the practical example of the campus planning process of a residential education and research facility, called Student Build Campus (SBC), an initiative that allows people to create their own campus at Keio University, Shonan Fujisawa Campus (SFC) in Japan. Our research is based on architect Christopher Alexander's studies on the Oregon Experiment and the construction of Eishin Campus School. We also present the point in which the process of creating pattern language follows the research studies from the agile design method developed in the field of software design.

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1. INTRODUCTION

Since its opening in 1990 as Keio University's "experimental campus," Shonan Fujisawa Campus (SFC)¹ has been the forefront of educational innovation in Japan. Launching practical research of project-based learning, online classes, multiple language classes, Self-Recommended Admissions (A.O. Nyushi in Japanese), and shift of enrollment time to fall, whereas generally spring in Japan, it has been exhibiting progressive systems of university.

However, after 25 years since its establishment, SFC has decided to move these "experiments" forward by announcing its attempt of a new model of education, Miraisozojuku (Institute for Designing the Future)², a residential education and research facility that draws and train people from around the world as pioneers of the world's future. Along with the construction, the campus planning is in the process with a new concept called Student Build Campus (SBC), which invites students, faculty, staff, and alumni, to collaboratively work together to create their campus with their own hands. Its aim is not only to create the physical campus facility but also to bring about the curriculum and the system of SBC project itself.

Instead of designing a campus plan to build facilities all at once at the site, SBC intends to gradually expand the campus to the required curriculum with respect to each year, over a long run. Not only adding on but also contracting the buildings depending on demands, this project grants the campus to gradually grow in a long term. During this campus planning, we are practicing an agile design of the campus by creating pattern language along with designs for architecture and landscape, and educational programs.

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¹ Keio University Shonan Fujisawa Campus (<http://www.sfc.keio.ac.jp/en/>)

² Miraisozojuku (Institute for Designing the Future) (<http://www.miraisozo.sfc.keio.ac.jp/en/>)

This paper presents SBC's original method and practice of creating pattern language in any phase of designing the facility, educational programs, as a method that plows the campus plan ahead and involves users in an agile manner.

2. CAMPUS PLANNING WITH PATTERN LANGUAGE

This section examines the research practices of campus planning with pattern language. Specifically, we look at the method of designing the campus with the use of pattern language. The first example describes the Oregon Experiment at the University of Oregon, Eugene Campus in the United States. The second example is from the case at Eishin Campus School, located in Saitama Prefecture, Japan. The third example is from the Student Build Campus at Keio University Shonan Fujisawa Campus in Japan.

2.1 The Case of University of Oregon

The University of Oregon, Eugene Campus in the United States has adopted the use of pattern language in its campus planning (Figure 1). In order to implement the extension and reconstruction of an alive and healthy campus, Alexander created a list of 55 patterns to facilitate the design of the buildings. Out of all 55 patterns, 37 patterns were selected from A Pattern Language (Alexander *et al.* 1977), and 18 patterns were created specifically for the University of Oregon. This list of patterns forms the basis for a shared agreement in the University of Oregon community as the principles for this project. Alexander describes that:

All design and construction will be guided by a collection of communally adopted planning principles called patterns. To this end, the planning staff shall modify the published pattern language, by deleting and inserting patterns, to meet local needs; those patterns which have global impact on the community shall be adopted formally by the planning board, on behalf of the community; the collection of formally adopted patterns shall be reviewed annually at public hearings, where any member of the community can introduce new patterns, or revisions of old patterns, on the basis of explicitly stated observations and experiments (Alexander 1975 p.136).

That is, this set of patterns is recognized as the principles of design and construction after it is officially adopted by the planning board and public hearings. When the list of patterns satisfy the requirements from the planning staff, it is reviewed through careful discussion whether it is coherent with the environment and once adopted, it is reflected to the design and construction. By this procedure, patterns function as a common language involving the users to participate in the process of design. Even 40 years after Alexander's practice, this principle of patterns is still being replicated in the campus planning process at the University of Oregon³.



Fig. 1. Eugene Campus, The University of Oregon

2.2 The Case of Eishin Campus School

In 1985, Alexander has used pattern language for building the campus of Eishin Campus School, Saitama Prefecture in Japan (Figure 2). In planning the campus, Alexander has asked the users of the high school, such as the teachers and students, about their "dreams" for school and shaped them in pattern language.

³ The current campus plan of the University of Oregon is described on its website (<http://uplan.uoregon.edu/index.html>).

Alexander states the method of the interview in *The Battle for the Life and Beauty of the Earth: A Struggle between Two World-Systems* (Alexander *et al.* 2012),

The very first thing we did was spend two weeks just talking to different teachers and students, to get a feeling for their hopes and dreams. These talks were one-on-one and often lasted about an hour, for any one interview, during which we asked questions, to understand each person's deepest visions as a teacher, or as a student. We asked people about their longings, and their practical needs. We asked them to close their eyes and imagine themselves walking about in the most wonderful campus they could imagine (Alexander *et al.* 2012 p.117).

Based on the interviews, Alexander created a pattern language that forms each people's "dreams." Below is the list of first sketch of a pattern language created for Eishin Campus School.

The List of First Sketch of A Pattern Language

- i. The new campus will consist of an outer precinct with all the sport fields, gardens and outer buildings, and an inner precinct with all the buildings, high school and college activities.
- ii. The inner precinct of the school is made up of seven major entities.
- iii. The entrance street, which connects the outer boundary to the inner boundary.
- iv. The main yard, which contains the great hall.
- v. The tanoji center, which contains two narrow crossing streets, all the communal functions, and the college departments.
- vi. The home base street, which contains the individual home base buildings, and the common space for high school students.
- vii. The college cloister which contains the library, and the special college functions such as research center.
- viii. The lawn which is shared by the high school and the college.
- ix. The gymnasium, which stands at the end of the home base street, and forms its head (Alexander *et al.* 2012 p.122).

Since this pattern language will gently inspire communication among the students and teachers about their ideal campus, Alexander has repeated such interviews and the formation of pattern language. He tried to crystallize their "dreams" for their campus by amending and adding the patterns. After 110 patterns were formed during such process, they were adopted by the faculty meeting of the school and reflected to the campus design. To put, Alexander created a common language for discussion of the campus design that enabled the users to participate, by writing the users' ideas on their ideal campus through gentle interviews.



Fig. 2. Eishin Campus School

2.3 The Case of Student Build Campus in Keio University

Since 2014, Keio University's, Shonan Fujisawa Campus has launched the Student Build Campus, a project where students, faculty members, and staff participate in creating their own campus using pattern language. From a few days to weeks, students and the faculty stayed at the residential education and research institution and created their ideal curriculum. As of December 2015, a residential institution, which can be occupied by 32 students or faculty members, and a digital fabrication factory, equipped with 3D printers and laser cutters, are under construction. Furthermore, SBC Center was established as a place where participants can discuss the design and curriculum of their ideal campus, and activities related to the project (Figure 3). Since the project adapts its campus design and curriculum based on the volatile needs of education and learning, this meeting place is a valuable foundation that supports continuous discussion on the ideal learning styles and education.

In order to encompass the diverse topics entailing the project during campus planning, Design Dialogue Meetings are held at SBC Center. In the meeting, the Architecture and Landscape Team that mainly focuses on planning and designing facility buildings and surrounding landscape proposes mainly ideas on drawings and models, and the Educational Programs Team that deals with curriculum and classes offers ideas on them. These ideas are openly discussed by the participants, and receive feedback for the campus planning of SBC. After receiving feedback, the ideas are put to amendment and growth, and are brought back and presented to the meeting in the following week. Design Dialogue Meetings are held weekly as an open platform for everyone to participate in the whole design of SBC (Figure 4). Students and the faculty are involved in not only in the planning but also in the construction of the campus (Figure 5).

In the planning and constructing process, all design concepts of the building and curriculum are articulated in the new process of creating patterns. These include ideas that are still work-in-progress and design concepts that are fixed. We describe this method and practice in Section 3.



Fig. 3. Student Build Campus in Keio University (top: SBC Center, bottom: residential institution)



Fig. 4. Design Dialogue Meeting



Fig. 5. Students involved in Campus Construction (top: SBC Center, bottom: residential institution)

3. THE METHOD OF AGILE PATTERN CREATION

In this section, we set forth the method and practice of creating and applying patterns in any phase of design, agilely designing a campus while involving participants. Beginning with the importance of designing a growing design process, we present the practices from Keio-SFC Experiment. In addition, we highlight that this method follows the studies and praxis from the field of software design.

3.1 Agile Design Process with Pattern Language

As addressed in the previous section, in planning the campus of Eishin Campus School and the University of Oregon, Alexander clarified design concepts by surveying the users' needs and "dreams" for the school and forming them into pattern language. The patterns' utility were screened and discussed at an official committee. Selected patterns are used as a basis to build the campus during the process (Figure 6).

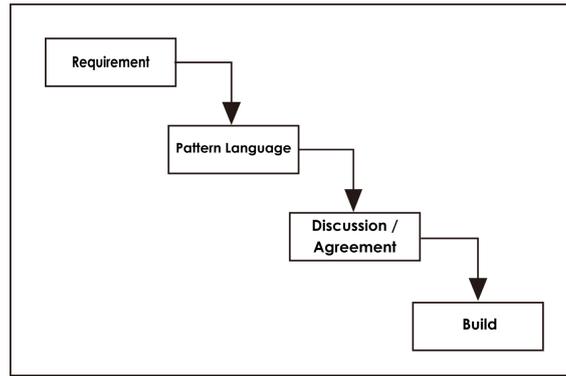


Fig. 6. The Heavyweight Process of Patterns Creation

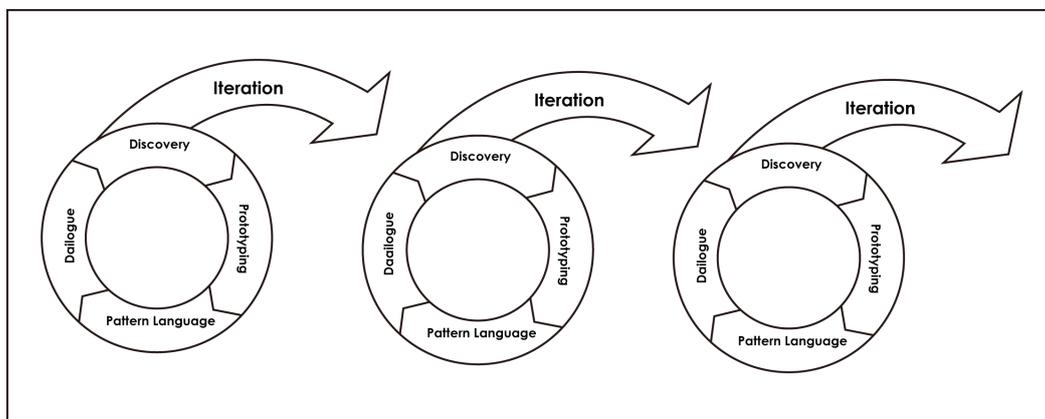


Fig. 7. The Lightweight Process of Patterns Creation

This method enabled the users to participate in the design by creating the design concept based on their needs. On the other hand, the process of creating and selecting the patterns was demanding. However, as campus planning is complex, sudden changes and new demands may emerge during the design process. To cope with such situations, we searched for ways of creating and using patterns that promote further communication with the users and exploration of our ideal campus.

In this paper, we propose a lightweight pattern creation method. Through discussion and prototyping, it includes creating and applying patterns in any design phase for campus planning. Patterns are created whenever a demand or a need for design emerges during discussion and prototyping with the users. Those patterns are used in dialogues to create ideas for the new design. Based on those ideas and discoveries, users are involved in creating a mockup of and prototyping the design concept. The design develops as the cycle of creating pattern language, dialogue, discovery, and prototyping is iterated (Figure 7).

This approach advances the design by iterating the prototyping process and pattern creation with the users. Unlike the heavyweight pattern creation that creates a fixed set of patterns in the initial phase, this method responds to every need that occurs in the entire process. Additionally, it makes it possible to share revisions and involve the users to participate in the search for the “dream” campus.

3.2 Practice of Agile Pattern Writing

We highlight the case of SBC as an example of lightweight pattern creation. As mentioned earlier in the introduction, the SBC campus will grow over years. To emphasize, ideas changes their content in a weekly cycle, attempting not only to encourage the continuous growth of the campus, but also the development of design by an agile manner that spans one week. The method of lightweight pattern creation was adopted to fit such design process at SBC. In the Design Dialogue Meeting, introduced in Section 2.3, we practiced the method of iterating the cycle of creating pattern language, dialogue, discovery and prototyping.

This project deals with patterns that encompass three categories: Architecture Patterns related to the facility buildings, Educational Program Patterns that address the educational contents on campus, and Project Patterns narrating the collaboration among the sectors involved in the activities and discussion of

SBC (Table 1). The Architecture Patterns describe the design intent and design method of facility buildings and landscapes. The Educational Program Patterns shows the design intent and design method of the curriculum and classes offered at SBC, The Project Patterns explains the design intent and design method of how the people in SBC collaboratively work and think together⁵.

The examples of SBC Architecture Patterns are: *Life Facing South*, *Good Interval to Neighbors*, *Half-Hidden Space*, and *Enclosed Open Space*; SBC Educational Program Patterns are: *Appropriate Number of Group Members*, *Diverse Student Body*, and *Home Dialogue*; SBC Project Patterns are: *Present Best Solution* and *Concrete Image of "Openness"*⁴.

We explain how the creation of patterns proceeded using the examples of Architecture Patterns. At one of the Design Dialogue Meetings, participants had a dialogue on the first building's location. One of the Architecture and Landscape Team members proposed that "the living room should be positioned facing south so that it get the warmth of the sunlight." Moving the facility model in that direction, another participant disagreed by claiming that "in such position, the facility looks isolated from the surroundings, so it should be moved closer to the nearby buildings." After listing all the advantage and disadvantages of this position, changing the location of the facility model each time, the participants carefully deliberated the best location of the facility. After a long discussion, a discovery on what SBC is meant to offer emerged to the surface: acting as a comfortable platform that propels collaboration among students.

With this in mind, the dialogue turned the tide to focus on the protection of the students' privacy rather the isolation of the facility. Participants then agreed that it is essential to keep somewhat distance from the neighborhood and that the living room should be positioned where it could gain sunlight to naturally gather students. The meeting was to a close and the Architecture and Landscape Team then worked on prototyping and shaped the idea that was created in the meeting into a mockup and drawings. The pattern creation team (the authors in this case) created new patterns based on those prototypes and design intentions (Figure 8).

As "positioning the living room to face south to naturally gather students" emerged as an important design intention in the meeting, this was formed into the pattern '*Life Facing South*.' Similarly, the design intention of the building's location that maintains a decent distance for each party's privacy reasons, was formed into the pattern '*Good Interval to Neighbors*.' Also, the meeting developed the design intention that exposes the vibrant activities at SBC while protecting the residents' privacy, which formed into the pattern, '*Half-Hidden Space*.' '*Enclosed Open Space*' was also created based on the design intention to set a boarder in a vacant lot and utilize that area as an open space (Figure 9).

Table. 1. Domains that are supported by Pattern Language at SBC

Categories	Domain of Design	Pattern Content
Architecture Patterns	Architecture and Landscape	Design Intent and Design Method of Facility Buildings
Educational Program Patterns	Educational Programs Design	Intent and Design Method of Curriculum and Classes
Project Patterns	Activities for SBC Design	Intent and Design Method of Collaboration among people involved in SBC

⁵ These three domains corresponds to the divisions of the three generations of Pattern Language; Pattern Language 1.0 that deals with physical objects such as architecture, Pattern Language 2.0 pertaining to non-material objects such as software design, and Pattern Language 3.0 that handles human actions (Iba, 2012)

⁴ These patterns are in appendix (p.11-27).



Fig. 8. The Process of Agile Pattern Writing

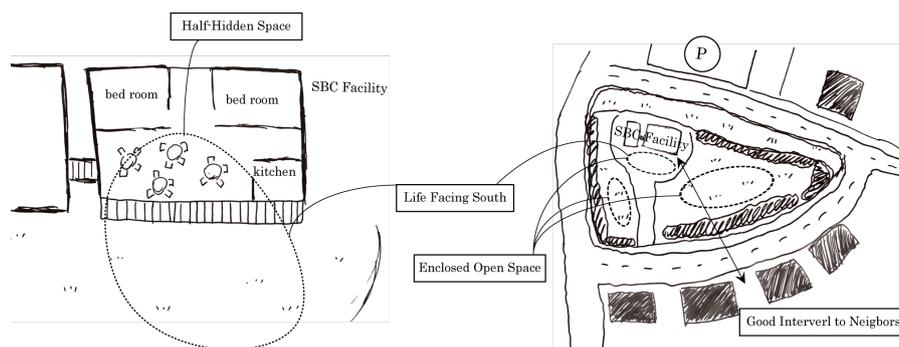


Fig. 9. Architecture Patterns in the layout drawing for the first facility

In the following Design Dialogue Meeting, the location of the facility was explained with this pattern. In this way, the patterns helped facilitate the dialogue, discoveries, and updated the prototypes and pattern language.

In this practice, there are two points to note about the significant role that the pattern language method plays. First, it uncovers the intention of the design. When an idea is discussed during the Design Dialogue, it is written as a pattern to describe the context and problem that it is solving. This way, this pattern acts as a common language that promotes discussion among the participants and lets them understand the design intentions. Secondly, patterns can be passed on to the people who had never attended the meeting. Patterns can introduce the design intent followed by the sequence of events to beginners to encompass their participation in the discussion. In the long run, when patterns are depicted, the essences of design intent can be passed on to the successors, despite replacements of the members of SBC project.

3.3 Background of the Method of Agile Pattern Creation

The method of creating and applying patterns in SBC campus planning is in alignment with the design process and values of agile software development, proposed in the field of software development.

As a software development practice, the waterfall model is a heavyweight design process that first analyzes all of the requirements and then systematically design and develop the products in the long run. This waterfall model was the conventional development practice. However, as customer satisfaction and better forms of communication were sought, the method of agile software development evolved. This

values; individuals and interactions over processes and tools; working software over comprehensive documentation; customer collaboration over contract negotiation; and responding to change over following a plan⁶. Agile software development aims to provide better software products through early delivery and feedback and collaboration. This method takes into account the communication with customers and the findings from such interactions.

With this concept of adaptive planning from the field of software development, we are creating and using pattern language in an agile manner. Since the Keio SFC Experiment requires iteration of prototyping and communication with the users, the agile patterns creation method best suits its need. Using this method, we continue to strive for the optimal campus planning in which users can explore their dream campus.

4. CONCLUSION

This paper describes the method and practice of continuously creating pattern language in all phases of designing a campus while involving the users in an agile manner.

The results have found that the Architecture Team and Educational Programs Team were able to clarify the design concepts by describing their ideas as patterns. Additionally, the patterns interactively promoted discussions on a desirable future of SFC during the Design Dialogue Meeting. At the same time, as the patterns were shared, the participants learned the concerns and findings regarding the design trajectory and process. During the campus planning, the iteration of both the creation and application of SBC patterns involved the participants to discuss and identify the essence of SBC.

On the other hand, there were some weak points during the process. One is that a person with the ability to write patterns is required to in which discussions and prototyping are held. Pattern writing requires specific skills and knowledge, and in order to record the design requirements and concepts during discussions, one needs to possess such skill-set. Another is that it is difficult to improve the quality of patterns within a limited time and number of people. The third point is the difficulty of sharing and using the patterns. Even if the patterns described the design concepts well, the users needed support by those who have knowledge on patterns, to apply the patterns in their own context.

We emphasize the need for support to allow everyone to write patterns. When pattern writing is not exclusive, this method would overcome the first two challenges of having a limited number people. Moreover, as a tool to maintain the quality of the patterns under a short period, we examine the efficiency of Geometrical Fundamental Property and Behavioral Fundamental Property (Alexander 2002 and Iba 2015). It is important to spread the understanding of pattern language as well as its application.

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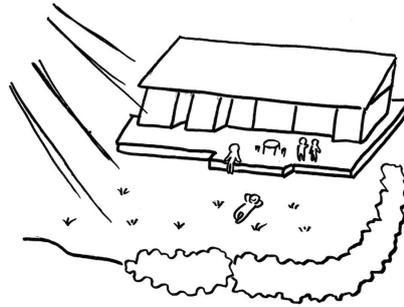
REFERENCES

- Alexander, C., Silverstein, M, Angel, S., Ishikawa, S., and Abrams, D.(1975), *The Oregon Experiment*, Oxford University Press.
- Alexander, C., Ishikawa, S., and Silverstein, M. (1977), *A Pattern Language: Towns, Buildings, Construction*, Oxford University Press.
- Alexander, C. (2002), *The Nature of Order: An Essay of the Art of Building and the Nature of the Universe, Book 1: The Phenomenon of Life*, Routledge.
- Alexander, C., Neis, H., and Alexander, M. (2012), *The Battle for the Life and Beauty of the Earth: A Struggle between Two World-Systems*, Oxford University Press.
- Iba, T. (2012) "Pattern Language 3.0: Writing Pattern Languages for Human Actions" (Invited Talk), *19th Conference on Pattern Languages of Programs (PLoP2012)*.
- Iba, T., Kimura, N., Akado, Y. and Honda, T. (2015) "The Fundamental Behavioral Properties," *World Conference 2015 on Pursuit of Pattern Languages for Societal Change*.

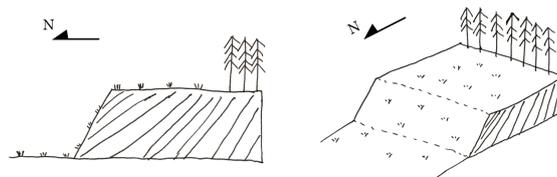
⁶ Manifesto for Agile Software Development created in 2001 (<http://agilemanifesto.org>).

Life Facing South

A warm and bright room with sunlight shining in.



Unlike an ordinary office or laboratory, Student Build Campus should have a space like home, since it is a residential education and research institute. There are plants on the south side, and a steep slope on the north side of the construction plot. Where should the building face and be located at the site?

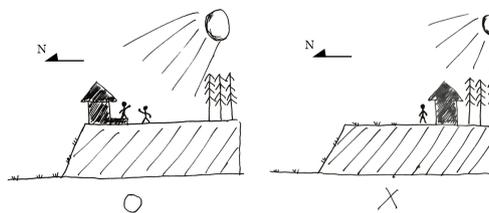


▼ In this context

When the building is fixed on the south side, it prevents the sunlight to enter the rooms and cannot create a warm space. Usually, south-facing spaces get a lot of daylight and are cozy. However, plants not only block off sunshine but also decrease the chances of creating an open and comfortable garden-like space. It is possible to allow more sunlight to come in, but some shade is always created.

▼ Therefore

In order to create a sunny space, the building is set on the north side so that there is a space where people can interact, like a living room or garden. Create a vast garden on the south side and allow sunlight to shine in. Also, when there is a natural opening equipped with a wood deck, residents can gather at the open space during the day.

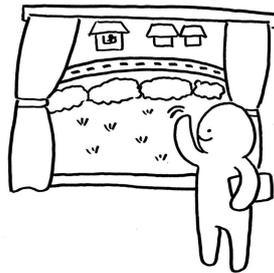


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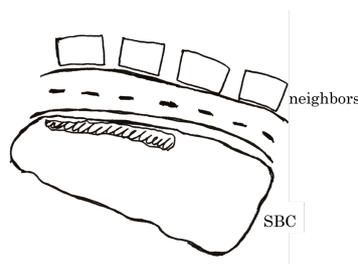
Students can feel like home when spending the long day at the warm garden and living room under the sunlight. Since SBC aims for learning from collaboration, this living room is crucial in demonstrating a comfortable and good space, where students can naturally gather. The opening of the living room facing south and wood deck can be a bridge between the gardens and building that is appealing.

Good Interval to Neighbors

Keeping a discrete distance with neighbors is key to a good neighbor-ship.



On the south side of the construction site, there is a neighborhood across the sidewalk. Where is the best place to locate the new building?



▼ In this context

The neighbors would be overwhelmed by the sudden appearance of a building that is located in a vast site, while there is a choice to position the building away from the neighborhood. Since neighbors are concerned with noise and sunlight cut offs, they would not be in support of that location. However, a building that is distant to the neighborhood will leave an impression of isolation that rejects interaction.

▼ Therefore

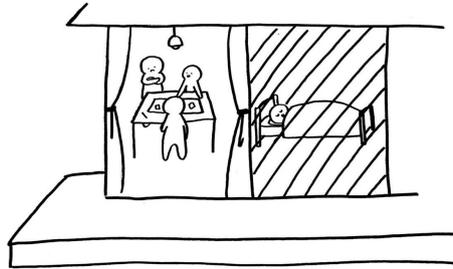
Keep a discrete distance with the neighbors and locate the building in the construction site. When the first building is located the north side, opposite to the neighborhood, both residents can keep their privacy and prevent conflicts regarding noise. If the space between the neighborhood and the first building acts as an Half-Hidden Space, an intimate distance can be created.

▼ Consequently

The distance between the building and neighborhood is intimate and does not leave an impression of rejection and isolation. Both residents can build a good neighbor-ship without invading each other's privacy. The good neighbor-ship decreases an overwhelming impression even when new buildings are built near the neighborhood.

Half-Hidden Space

Only show the active part and keep the private part hidden.



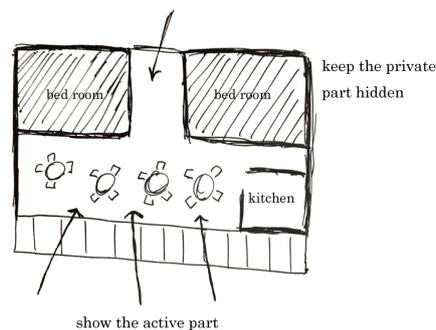
There are people who spend their days at public spaces such as community households and hospitals, and the current Shonan Fujisawa Campus is surrounded by that area. Student Build Campus hopes to involve those people as an open area.

▼ In this context

When the building is bare and exposed to others, residents feel uncomfortable and reluctant to use the residential institution. In the hopes of creating an open space by setting a large opening and placing a workshop outside, the residents cannot keep their privacy and feel invaded and insecure. Since SBC is a residential institution, the residents' privacy must be protected. It is essential to have actionable ideas on how to create an open space to enhance residents' productivity.

▼ Therefore

Design the building so that activities are half-hidden and can be seen. For example, keep the bedroom unexposed to the outside. Rather than glassing in all of the wall, choose some walls that only display the residents' activities. In addition, think about why people would observe the residents' outdoor activities at workshops or open spaces and who would want to do so.



▼ Consequently

Students in the building can relax and show their day-and-night activities, a symbol that expresses an active and lively campus. When closed and open spaces are separated, residents can choose their favorite places depending on their mood.

Enclosed Open Space

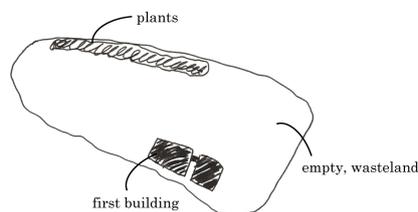
An empty place surrounded by buildings and plants becomes a place for activities.



Student Build Campus creates and remodels its buildings depending on changing learning needs. This means that buildings change their locations accordingly and leave behind empty lots on the site. For example, after the creation of the first building, a wide empty space is left until the next building is built.

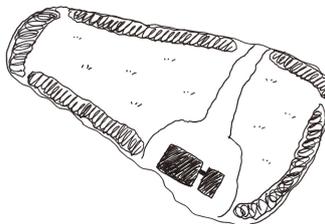
▼ In this context

The remainder of the area is left as a wasteland until the next building is built. If it is left as an empty lot, the users will not understand how to use the space and it will end up as an unused area. Therefore, that neglected land may gradually turn into a wasteland.



▼ Therefore

Create borderlines by setting plants and a building in an empty area and allow students to gather in the enclosed open space. For instance, surround the site with average-height plants and create an opening that leads to the building. Also, set a lawn to differentiate the space with the surrounding environment.



▼ Consequently

The users will be able to use the area surrounding the building as a garden-like open space. If that area is used as **【Life Facing South】**, the overall land can be practically used even if the land is not filled. When the site is considered as a whole, not only the building but also the open space will hold a purpose as a vital space.

Appropriate Number of Group Members

Team up 4 to 6 people.



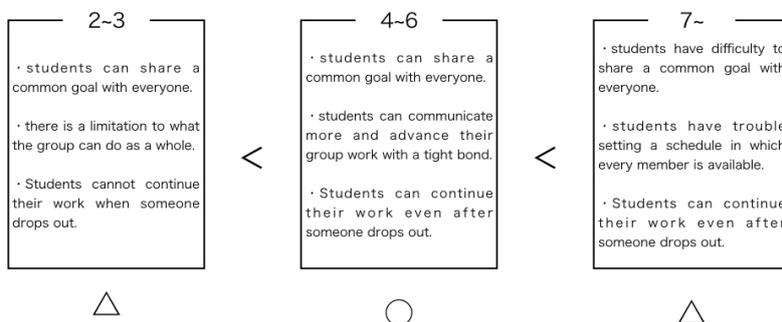
At Keio University Shonan Fujisawa Campus, most classes hold group work and encourage a group of students to complete one task together over several weeks. Student Build Campus allows students to conduct group work while staying overnight on campus. What are the best ways to design group work to enhance each students' learning?

▼ In this context

The groups will dismiss and students cannot complete their tasks. With too many people in a group, students have difficulty to share a common goal with everyone and also encompass several opinions. In addition, in sharing updates and decision-making, students have trouble setting a schedule in which every member is available. On the other hand, with a few people, there is a limitation to what the group can do as a whole.

▼ Therefore

In order to have a motivated group and encourage them to each do their best, set the number of people in the group to 4 to 6 members. Limit the number of group members to around 5 and support students to share their common objective, to locate tasks, and to arrange a schedule. It can also be said that this number is similar to the number of people that can where people gather to share a whole pizza.

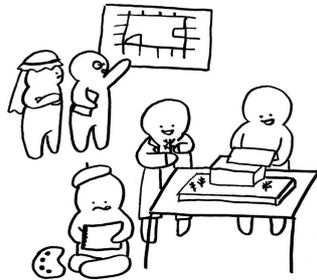


▼ Consequently

In order to achieve their goal, students will communicate more and can go about their group work with a tight bond. For good collaboration, each member can intimately and frankly communicate with other members, promoting participation through one's strengths. The group will be able to engage in productive group work with a shared goal and frequent interaction. With an intimate and close bond, the group will have a sense of companionship.

Diverse Student Body

Collect a great amount of differences.



Students with diverse interests study across academic disciplines at Keio University Shonan Fujisawa Campus. Classes held at Student Build Campus require those diverse groups of students to create new ideas by working together and discussing with each other.

▼ In this context

Students tend to gather with likeminded others and develop a narrow perspective. When students agree with the thoughts and ideas of other classmates, they gradually become similar and rigid in viewpoint, resulting in a homogenized group identity with less insightful or path-breaking ideas. In such situation, new ideas don't emerge.

▼ Therefore

Form a class with a diverse student body. The attributes of diversity may include interests of demographic characteristics, personality traits, personal values, and other types of diversity such as age and sex. Having a mixture of values, abilities, and life experiences can create a strong dynamic. For example, broaden the class topic or subject to welcome students with diverse interests. Even if the class topic seems irrelevant to the target students, try to connect the subject to their interests, by advertising appealing key phrases. It is important that the students understand the content of the class and is interested in it. Take note to share the class objectives and policies beforehand with the students and make sure they agree on them.

Sample Program

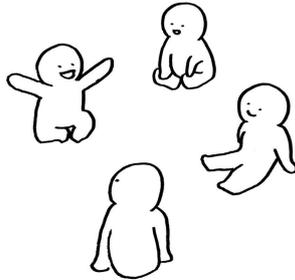
Intro to Changemaking
Objective To explore the concepts behind changemaking and to apply it to practice.
Class Policies As students are required to conduct group work, participation is crucial. Students are expected to arrange their schedule accordingly on their own responsibilities.
Key Phrases Social entrepreneurship, social innovation, social and emotional learning, group work

▼ Consequently

Creativity and innovation can be improved through different manner of thinking and in greater variety of perspectives. When students are exposed to a learning environment in which they identify themselves differently with others, they can take advantage of integrating or combining various ideas for cutting edge solutions or ideas.

Home Dialogue

A secure platform for the challengers.



Students who try to challenge the status quo with a progressive mindset gather at Keio University Shonan Fujisawa Campus. Student Build Campus hopes to create a place in which interactions, discoveries, and collaboration occur among those students.

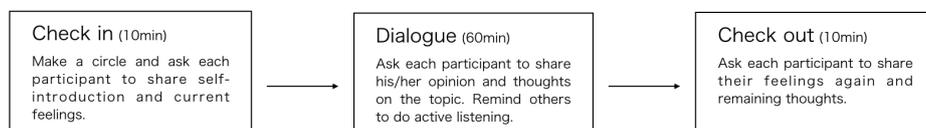
▼ In this context

Even when students gather for a discussion, they cannot immerse in a deep dialogue and share their perspectives on issues. Students with a problem-solving attitude keep all opinions and thoughts to themselves, losing that chance to share with others. On the other hand, some students may only address their opinions and thoughts, and not have a successful exchange of ideas with others.

▼ Therefore

Set up a time for a compassionate dialogue where students can encourage each other. For example, invite students who wish to contribute to society but possess concerns or fear, and allow them to share their feelings during the dialogue. Allow each student to express their feelings about their challenges and struggles and actively listen to others.

Sample Program



▼ Consequently

Students who participate in the dialogue can feel more secure and can discover the feelings towards their current challenges. When students accept each other's vulnerability, a sense of companionship will bear and inspire the motivation for change by supporting the students' positive attitudes.

Present Best Solution

An incomplete campus needs to be at the best at all times.



Student Build Campus never reaches completion due to its mission to create and to rebuild new buildings depending on necessary programs of the time. In such flexible campus planning, there is a focus on flexible decision-making on the building designs to deal with various applications after the first building.

▼ In this context

When valuing flexibility in future building's designs, the current term's design requires a compromise and forces you to work with unsatisfying space, therefore devaluing SBC. For example, to ensure a roadway for the next term's building, the current term's building is located in a site without sunlight. Without sunlight, the residents would feel uncomfortable, leaving the building without waiting for the next building. This same theory applies to the following design, thus allowing continuous compromises.

▼ Therefore

Prioritize the best solutions at the moment when making decisions. For instance, rather than considering possible locations for the 2nd building, make decisions of the first building's location that allows learning and symbolizes the campus. When there are multiple design ideas, narrow them into the present best solution, regardless of whether it will offer flexibility for the future.

▼ Consequently

Every building will include the best ideas at the moment of planning and construction. This process will help enrich the campus even when it is updated with new programs and buildings.

Concrete Image of “Openness”

An open space is appealing to the public.
But it would only exist if and when people use it.



Student Build Campus aims to create buildings and educational programs that allow the participation of the local community and other universities.

▼ In this context

“Open” is a broad and vague term, and thus may not appeal to specific target users. The design intention of an open space should be defined unless it aims to be merely self-satisfying. When one part is ensured of an open space, the design of other parts could be restricted. For example, if the all the building’s walls were glassed in, the residents’ privacy cannot be protected.

▼ Therefore

Identify the specific target to which you want to involve and think about why, when, how they would use the building. For instance, “allowing prospective students to experience college life through discussion with faculty and students in problem-identifying and problem-solving workshops during an overnight stay in summer break, ” has a certain target. Ideas should be tossed around others to screen the possibility of the idea.

▼ Consequently

The building can equip specific usages when a target user is identified. When the open space has a meaning and purpose in its usage, SBC can connect people and also expose its activities to other people.