

[原著論文]

ハードコミュニケーションメソッドとソフトコミュニケーションメソッドの提案とそれに基づいた大学生の課外活動向け基礎的チームビルディングモデルの設計

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Proposal Combining Hard Communication Method and Soft Communication Method to Design A Basic Team Building Model for University Students in Extracurricular Activities

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要 約

現代社会において、意思決定、新規アイデアの提案などを実現するためにチームで協働することは不可欠であり、そのためにチームワークが重要であることは明らかである。人工知能が台頭する時代のビジネスでは、チームメンバーのアイデアをまとめ成功を導くために集団的知性 (Collective Intelligence) という考え方がますます重要になってきている。また、米プロジェクトマネジメント協会が発行しているプロジェクトマネジメント知識体系ガイドでは、「チームワークはプロジェクトを成功に導く決定的な要素である」という意見主張している。このようにビジネスにおいて、素晴らしいチームワークで働くことは必要不可欠なものとなっている。

チームワークはビジネスだけでなく学生の活動においても重要なものである。多くの大学生は部活やサークルに所属しており、大学における学習環境は、学生がチームマネジメント理論の適用方法を考える機会を提供している。ビジネスと学生の活動における状況は違うため、大学教員としてはビジネスで利用されている理論を調整し、学生向けに適用することを考える必要がある。したがって、我々は学生がチームを構築する際の状況を検討し、ビジネスにおける場合と学生の活動における場合の違いを分析する。その後、大学生向けの基本的チーム構築モデルを設計する。また、モデル設計のためにハードコミュニケーションメソッド (HCM) とソフトコミュニケーションメソッド (SCM) を提案する。HCM は関係性を何も持たない学生を結びつけるための手法である。学生は一緒に行う小さなタスクを提示され、それらを遂行・完了するためにコミュニケーションを取ることでお互いを知ることとなる。SCM はすでに知り合っている学生がよりよい関係を築くための手法である。学生はハードコミュニケーションよりリラックスした状況で自由にお互いに話題を決め、親交を深めていく。このコミュニケーションを通してより良い関係を築き、より良いチームを組織することを狙う。すでに知り合っている状態が求められるため、SCM は HCM 実施後に行うことが望ましい。基本的チーム構築モデルは、上記の手法を含んだ 4 ステップのモデルである。本稿では、HCM、SCM、および基本的チーム構築モデルについて報告する。

Key words : Team Building, Communication, Educational Environment, Collective Intelligence

1. Introduction

Working as a team is essential in our society to achieve something such as making decisions, proposing new ideas, and creating new products. The importance of teamwork is clear throughout the world because winning teams come to Competitions and the Olympics to demonstrate the power of teamwork. In the world of computer science, the idea of Collective Intelligence is important for working as a team to achieve successful results. Notably, the Association for Computing Machinery (ACM) has an annual conference series entitled The Collective Intelligence 2019, the seventh iteration of this conference topic. The concept is simply that computer engineers should share our work in a public forum. This is part of the educational environment in which our university students must develop.

In 1969, five individuals founded the Project Management Institute. The first edition of The Project Management Body of Knowledge was published in 1996. The publication summarizes knowledge assembled from all over the world of project management to develop an international standard. This work explains the essential factors of project management. In the 2008 edition¹⁾, it says, “teamwork is a critical factor for project success, and developing effective project teams is one of the primary responsibilities of the project manager.” Therefore, working as a team with *good teamwork* is required to be successful in many projects.

Teamwork is necessary and important for university students’ activities, too. Many university students belong to circles and clubs. Clubs routinely plan events, tournaments, welcome parties and so on. Extracurricular activities have long been part of the learning environment for developing interpersonal communication, people skills, and teamwork.

The learning environment of the university provides an opportunity for students to think about applying the team management theory, which is so necessary to business. In universities, a faculty member must act as a consultant and supervisor for student clubs. As educators, we need to think about

adjustment and adaptation because the situation in business and that in students’ activities are different. Supervising faculty members might see themselves as coaches and mentors for the students by encouraging them to undertake activities to build up their skills.

However, sometimes students have some difficulty in making a team. Various reasons can be considered; For example, they do not share the purpose of a team enough or they do not have communication to be a good team. Generally, many people try to do Ice Breaking to solve this situation, but the granularity of the topic of Ice Breaking is not determined so that sometimes the topic is too soft to communicate for the first time or sometimes it is too hard (task-related) to have better relationships. Therefore, we considered that we should break Ice Breaking into two parts: Hard Communication and Soft Communication. The Hard Communication Method (Here-in-after referred to as HCM) is an introductory procedure and protocol to introduce the students who do not have any connections to each other. Students will be given some small tasks to work with and they communicate to finish the tasks. The Soft Communication Method (Here-in-after referred to as SCM) is to enable students to develop better relations. Given periodic discussion opportunities, they freely choose topics that team members would like to talk about. The advisors can encourage students to go out to enjoy activities together, such as cooking, singing Karaoke, and other bounding events to build real relationships.

Therefore, in this research, we review researches about team-building and consider which team-building factors are necessary for students’ activities. Then, we propose HCM and SCM that assist in making students’ relationships and networks. Finally, we design a basic team-building model with these methods for university students’ extracurricular activities.

2. Consideration for Students' Team Building

In this chapter, we review researches about team building and students' team building. As we consider the situation when students build a team at the university level, we can prepare them to recognize the phases in group life, so that they can appreciate the difference between business team building and students' team building.

2.1. Literal Review of Team Building Model

Talking about team building models, one of the most famous models is Tuckman's model. Tuckman₂₎ reviewed 50 articles dealing with stages of group development and proposed a model with four general stages of development: Forming, Storming, Norming, and Performing. After that, Tuckman & Jensen₃₎ examined twenty-two studies about small-group and introduced an additional fifth stage: Adjourning.

In the forming stage, people choose or are assigned to a team and the group naturally starts interacting to make decisions about their task and job, just as a team should. Team members have not created relationships and do not know other members' characteristics, so even if a team looks like working well, the fact is different in many cases. That is because team members do not share a goal; therefore, team members need to clarify how to work with and to cultivate teamwork. In the storming stage, conflicts among team members happen because of differences in self-awareness, policy, and opinions. A Team still is not working well in this stage. In the norming level, a team overcomes confusion and raises standard rules and roles. Members share mutual purpose and work as the best part of their team. In the performing level, a team works well so that they produce remarkable outputs. Finally, in the adjourning stage, which is the last, a team has achieved the goal and prepares for dissolution. Team members move forward to a new project with the things acquired from working with the team. The adjourning phase is an important phase of the model because it includes "closure" we have finished. It provides both a celebration of

conclusion, with a sense of accomplishment, and evaluation for "lessons learned" going forward. Tuckman's model combined with Project-Based Learning (PBL) gives advisors a framework for contextualizing the students' experiences.

We also have reviewed Peter Senge's₄₎ the Fifth Discipline for its utility in describing "personal mastery," "team learning," "building shared vision," "mental models" and "system thinking". We find that a supervisor is usually much more interested in the practical theories and significance of students' experiences. The students are much more interested in their own real relationships and actual experiences that they are having than the theories. This does not prevent them from deep learning.

2.2. Previous Works about Students' Team Building

Several studies about students' team-building in event management have been conducted in the second author's laboratory.

Kawakatsu₅₎ wrote his thesis: "How to make 'a better team.'" He found, from his experience through life in soccer and his own management experiences at the university, that organizational team learning requires both formal, business communication (事務的コミュニケーション) and informal, friendly communication (おしゃべりコミュニケーション). If the organization is too strict and demanding, the culture becomes dry and brittle. If the organization is too relaxed and prefer to play to work, it will be unproductive. A blended combination of the two mindsets belongs to a talented leader.

Okura₆₎ developed a concrete plan for developing team cohesion with practical activities. His plan advises that if the team leader proposes the teams to spend time out-of-school for relaxing and bonding, they should do it. The team cohesion will become healthy by doing that. This implies that the leadership should have open relationships with the subleaders within the team.

Another important aspect of team building is motivation. Saito₇₎ worried about the lack of motivation in students. He really embraced the hope of the mentors and coaches who care about training young leaders in clubs and event projects, not only

give the new members access to good “know-how” but also inspire them to pursue higher goals. If students understand the value of coaches and mentors, they will also see that teaching others builds their own confidence and “know-how.” This, of course, is significant for students’ event management and developing group cohesion.

2.3. Considering the Differences Between Business and Students’ Extra Activities

In this section, we consider the difference between business and students’ activities. We assume that significant differences are following three things: Purpose, members’ mastery, and team life cycle.

2.3.1. The Difference in Purpose of Team Working

The purpose of business is to gain profits and to make the organization bigger or keep it stable. In the business world, many methods to manage achievements are created, and they are applied to a variety of business fields. For example, Morita₈₎, who is the president of the university to which the first author belongs, introduces the Balanced Scorecard method and applies it to the management of the university. Achievement is carefully and surely managed, and a team should output profits for an organization following the management in the business world. Therefore, no one doubt that profit is one of the big factors to be motivated in business.

In addition, Herzberg, Mauser & Snyderman₉₎, Herzberg₁₀₎ constructed the Motivator-Hygiene theory (also known as the two-factor theory) and conducted the survey concerning what motivates the workers. The Motivator-Hygiene theory states that there are two factors, motivator and hygiene factors. The factors in working place that motivate and dissatisfy are different. He concluded that things such as achievement, recognition, and growth can be a motivator and things such as salary, status and work conditions can be hygiene. (This is an old survey, but Bassett-Jones & Lloyd₁₁₎ revealed that this theory was valid even in 2005. Therefore, we suppose this theory is still valid in recent years.)

Like above, in the business world,

low-motivated workers can work to gain their salary while high-motivated workers seek to perform with excellence to accomplish self-achievement. Workers with both low and high motivation can find a reason to stay in a team.

In contrast to business, students do not necessarily have activities to create certain achievements. Some students want to improve their competencies and some just want to enjoy or have a comfortable place. They cannot get the financial rewards and company recognition for their work that business can give. However, although students rarely get direct profit from their extracurricular activity, they can get high-level self-achievement, as in Maslow’s hierarchy₁₂₎. They build their interpersonal skills, establish themselves among their peers, and enjoy self-realization.

2.3.2. The Difference in Team Members’ Mastery

Members’ mastery is also a big difference between business and students’ activities. Generally, people in business have already graduated from school, and they are ready to work. They should take their responsibilities at each level. In contrast, Wilkinson and Shirai₁₃₎ described students’ situations as “it is the transition from adolescent to young adult to a member of society with their peers” from the experience holding Communication Skills II which is the English Class consisting of PBL and Task-Based Language Learning (TBLL). Each year in student life is marked by phrases and patterns and each person has an individual timeline for development. In other words, that means they are in the developing stage of their career path so that they are not necessarily mature enough to work smoothly as a team and to take all responsibilities. Students’ teams need mentors for that situation.

2.3.3. The Difference in Team Life Cycle

Team life cycle is another big difference. A team is generally organized for a project. In the business world, we are not sure the exact length of the project, but we suppose it longer than a half year. In contrast, for the students, the length of the project is basically shorter than a year; Sometimes it is even a

month in some events! We educators need to care about this; otherwise, students fail to create a stable team.

2.4. Requirements for Students' Team Building

According to the above discussion, we considered that we need the following three things for students' team-building: High understanding for purpose, good mentors, and supporter to care short team life cycle. Their mentor can include older students, former teachers, and their current team advisor.

3. Designing A Basic Team Building Model for University Students

Following the above argument, we design a basic team-building model for university students. As we mentioned in chapter 1, Ice Breaking is important but it should be break into two parts: Hard Communication and Soft Communication. The model we are proposing includes HCM and SCM. Therefore, we define these methods before designing the model.

3.1. Definition of Hard Communication Method

HCM is an introductory procedure and protocol to introduce the students who do not have any connections to each other. Students will be given some small tasks to work with and communicate to finish the tasks in this method. For example, they do some introductory novice level activities with mixing freshman and former students. The process of doing the task will help people relax with unknown persons by working together. They will discover that it is not very difficult to work with someone new for a few minutes, and therefore the students can accept their new community gracefully.

HCM also includes an orientation to standard club practices involving choosing leadership and roles and understanding the goals of their club and the university schedules which involve them.

3.2. Definition of Soft Communication Method

The purpose of SCM is to enable students to

develop better relations. Given periodic discussion opportunities, they freely choose topics that team members would like to talk about. They need to know each other well enough so that at least they can choose the topics. Hence, it is recommended that Soft Communication happens after Hard Communication.

The communication situation could be more relaxing than HCM. Perhaps they can meet in a public place away from school. Lunch, dinner, or even drinking parties work well for developing human relations and team spirits. Left to themselves, students take the path of least resistance, and do not try to develop new relationships, but it is these new relationships that give the students' membership in their club.

3.3. Designing Team Building Model

The goal of team-building with this model is that every team member knows the purpose or goal of the team. Every member also has their personal hopes, ambition, and desire for friendship. Also, it is significant that they can have both formal communication and informal communication for smooth information sharing.

3.3.1. Step 1: Sharing the Purpose and Goal of the Team and Gather Team Members

As a first step, the team members share the purpose and goal of the team. This makes the purpose and goal clear and explicit. The students may know why they were attracted to the club, but it is helpful to read out a mission statement for the club and include it in club meetings.

3.3.2. Step 2: Doing the Hard Communication Method to Know Each Other

In the beginning, students are shy and nervous. They need some routine practices to introduce themselves to each other and hear each other talk about their interests at the students' level. To achieve that, the idea of the Hard Communication Method is applied. In addition, during the working term, communicating on doing their task is also considered to be Hard Communication.

3.3.3. Step 3: Doing the Soft Communication Method at Certain Timing to Have Better Relationships

Bit by bit the students will begin to walk together or have meals together. Planning and doing HCM Activities will build memories and context so that the relationships can become bonded and comfortable.

3.3.4. Step 4: Reflecting and Reviewing the Things the Team Did (and Passing Knowledge, Wisdom, and Know-how to the Next Generation)

After a project is finished, and at the end of the semester, it is good to establish a time for reflection about the work of the team. The membership will think about the immediate future of the next year, and recruiting new students, and celebrating club membership at a meeting with a meal. It also provides an opportunity to congratulate and say farewell to a team leader. Former students can not be a main player but be a mentor and can support the next new team's activities.

3.3.5. Summary

Following these four steps, students can make a team, can know each other with HCM, can be connected deeper with SCM, and can close the team year with summarizing the knowledge that will be passed to the next generation and with celebrating their finishing the project. We designed this model as four steps, however, this model should not be followed sequentially. In the working period, they mainly stay in step 2 and step 3, so that the team members do lots of Hard Communication and Soft Communication. Therefore, the actual chart of working with the model is like Fig. 1.

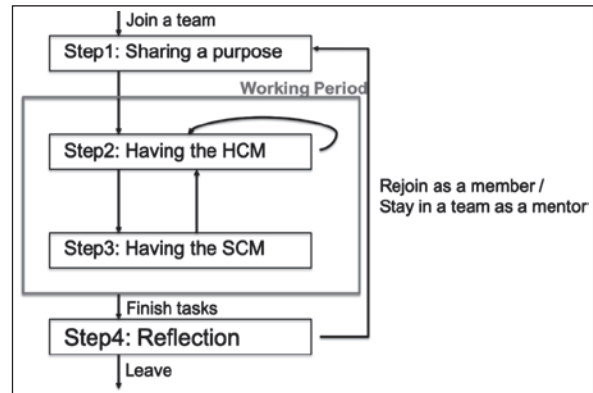


Fig.1 Actual Chart of the Basic Team-building Model

4. Discussion: Review the Model and the Methods with the Case Previously Authors Had

We just proposed the model by our experience working together for five years on students' event so that we have not done any practice of the model. However, we can figure out similar situations from the previous event the authors had. Therefore, although we do not have actual data for the model, we try to verify the effectiveness and the limitation of the model from the previous cases.

Once the authors' relationship was a student (first author) and a professor (second author). When the first author was a graduate school student, he assisted the many events that the second author held. One of the significant events we had is Home Coming Day (HCD) of the faculty of informatics at Shizuoka University. HCD is for alumni of the Faculty. Some of them are former professors who have retired. Some participants are from the earliest classes of graduating students. Yet there are always a lot of persons new to the event, who come hoping to see someone that they knew before. The mission of the HCD is to achieve the opportunity to enable those people to gather together.

When we had an event, the team had different members each year. The team consists of a professor belonging to the committee of HCD and voluntarily participated or invited students so that when the team was formed the team members did not necessarily know all of the team members. This is the example of the year that HCD team

management work great comparatively. First of all, the team had a kick-off meeting to start the HCD project. Then, the team had a meeting almost every two weeks. This can be considered as Hard Communication. Continuing the tasks and jobs, we were getting connected and knew members' characteristics. Some members gathered together and have a chance to talk with drinking. Not all members had the chance, therefore, this is not the same as step 3 on the model. However, it seemed that the members who had Soft Communication worked together more smoothly than the members with only Hard Communication. After finishing a project, the authors stay as mentors until we leave the faculty; sometimes we participate in a meeting or give some opinions to a new team. The team and project management succeeded in having this team-building loop. This loop is not the same as the loop in the team-building model we proposed in this paper; however, it has almost the same flow as Fig. 1.

That year, HCD had more than 100 participants and this number is higher than that of ordinary years. This means the year with a similar flow is more successful than other years. We need to take into account other factors but we considered that good team management is one big factor of success. Therefore, we conclude that this model should be useful for students' extracurricular activities, and this could be a guidance for the students who do not have an experience of team-building.

On the other hand, this is human activity, so that we need to consider not only students' team-building ability but also other factors. For example, when they do the Hard Communication it can be considered that it is a necessary task to join a team and to be known with each other. However, when they do Soft Communication some students might say "I don't want to be connected with the team members at that level." The proposed model cannot handle those things because we considered the ideal flow as a first step in building the model. The next step is empirical research on how the model really works with considering students' characteristics.

5. Conclusion

In this paper, we reviewed researches about team-building and considered which team-building factors are necessary for students' extracurricular activities. Then, we proposed HCM and SCM that assist in making students' relationships and networks. HCM and SCM can be outlined as a guideline for students to improve relationships among team members and for (young) teachers to provide guidance and advice to new students at the university to join and manage clubs. Finally, we designed a basic team-building model with these methods for university students.

The personal mastery and interpersonal skills that students can acquire by themselves are rarely available in undergraduate level university classes, especially those in science, technology, engineering, and mathematics (STEM). Yet, the practices of team building and organizational management will be beneficial to these students when they enter society professionals and find work in companies and businesses through their lives. Also, communication skills will be valuable in every aspect of their lives, including family activities and celebrations.

As future work, we are going to consider the required factors for students' team management as another layer of the team-building model we designed in this research. The proposed team-building model describes how to organize a team, but it does not include how to manage to keep the team stable. Besides, we would like to have a survey about students' concerns when they work as a team. One of our goals is to establish basic models of the skills students will need when they enter society in order to enable especially novice students of these skills to start learning them. Also, these days, working as a team is required in a class that adopts active learning such as PBL and TBLL. We are going to figure out the difference between teamwork in a class and extracurricular activity and then consider the adaptation for classes.

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