

*Change of Student Attitudes in Secondary Education Extracurricular Activities
Promoting Interactive Learning*

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Abstract

This study aimed to examine the attitude changes and the factors contributing to the changes in students who participated in extracurricular activities that involved external personnel. We aimed to comprehensively discuss the possibilities and challenges of collaboration between external personnel and schools and to provide suggestions for improving and developing future initiatives. The participants were 13 middle and high schools in Japan that participated in an educational program to review school regulations through dialogue with facilitators dispatched by external party. Interviews were conducted with students and teachers from various schools, and the contents of the interviews were qualitatively analyzed (using the Steps for Coding and Theorization [SCAT] method). By analyzing the results of multiple interviews, we attempted to distinguish the effects of the educational program based on school and individual conditions and characteristics. From the analysis of the interviews with 6 students, 42 propositions (theoretical claims in SCAT terminology) were presented regarding changes in student attitudes. The analysis showed that students who participated in the activities acquired diverse perspectives and empathy through dialogues with others. Their self-esteem, self-efficacy, and motivation were nurtured in the context of their relationships with others and their personal growth experiences.

Keywords: Learning Through Dialogue, Learning Through Reflection, Extracurricular Activities, External Personnel, SCAT

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1. Introduction

Children living in the modern era, where predicting future changes is challenging, must develop the ability to identify problems on their own, collaborate with others to solve them, and create new knowledge and values within a rapidly changing society. To nurture these abilities, educational settings have recently advanced the introduction and practice of interactive learning and collaboration with the local community and external personnel. In the new learning guidelines announced by Japan's Ministry of Education, Culture, Sports, Science and Technology in 2017, the importance of addressing the needs of today's children while envisioning a society of 2030 and beyond, in line with societal changes, is reaffirmed. Learning through dialogue is an interactive learning approach and is crucial for children living in future societies. There are models of classroom practice for learning through dialogue, such as Sato's (2018) learning community model, and studies on the introduction and practice of learning through dialogue for each class unit. For example, research on classroom practices in elementary school Japanese language classes focusing on discussion activities revealed a process in which students deepened their thoughts by borrowing words from other students during listening activities, highlighting the impact of diversity (Sakamoto, 2020). Furthermore, the new learning guidelines call for understanding the significance of political participation and the social security system and for collaboration with societal and educational organizations outside the curriculum, in response to contemporary issues, in cooperation with society. Specifically, collaboration with external personnel with diverse expertise is recommended as a means of cooperation between society and schools. Hayasaka (2008) showed that the participation of external personnel in primary and secondary education enhances students' ability to relate knowledge and skills to social life, thereby raising their interest in society and learning motivation. Inoue (2021) reported that activities involving interactions between students and external personnel, in which external personnel provide feedback, can boost students' self-esteem and reduce their resistance to expressing opinions. Although interacting with external personnel can clearly lead to high-quality education, its adoption in schools remains limited because of the burden on teachers regarding coordination tasks, such as meetings for classroom collaboration with external personnel and the difficulty in finding external personnel who can understand the objectives and progress of lessons, which usually occur multiple times (Fujikawa, 2004, Sasagawa, 2015). Therefore, this study focuses on extracurricular activities that, unlike regular classes, do not have a curriculum or indicators of achievement. We examine the transformation of the attitudes of students and teachers involved in extracurricular activities, focusing on interactive learning and collaboration with external personnel in secondary education.

2. Extracurricular Activities Promoting Learning Through Dialogue

2.1 Project Overview

This study targets extracurricular activities in secondary education that are part of a project called "Rulemaking for Everyone," organized by the Certified Non-Profit Organization KATARIBA (hereinafter referred to as NPO KATARIBA). This project is an educational program in which schools nationwide collaborate with NPO KATARIBA, with students taking the lead in working together with teachers, parents, and other stakeholders to review and revise school rules and regulations. Through this activity, students are expected to cultivate a sense of agency toward issues around them, take action for improvement, and foster a consciousness for social participation by forming what NPO KATARIBA calls a "consensual solution" through dialogues with people of differing positions and opinions

(NPO KATARIBA, 2022). The revision of school rules affects not only the participating students but also school life in general, which involves other students, teachers, and parents who do not participate in the activity (Figure 1). External personnel were dispatched to the school to support students and teachers throughout the activity period, which lasted approximately a year. The annual activity schedule starts with the school recruiting participating students, followed by the students leading the selection of school rules to be revised and investigating their validity. According to the activity stages, students engaged in dialogue with various stakeholders to advance their activities (Table 1). This process is designed to involve these stakeholders in the activities and, through exchange of opinions, for the students to experience learning through dialogue.

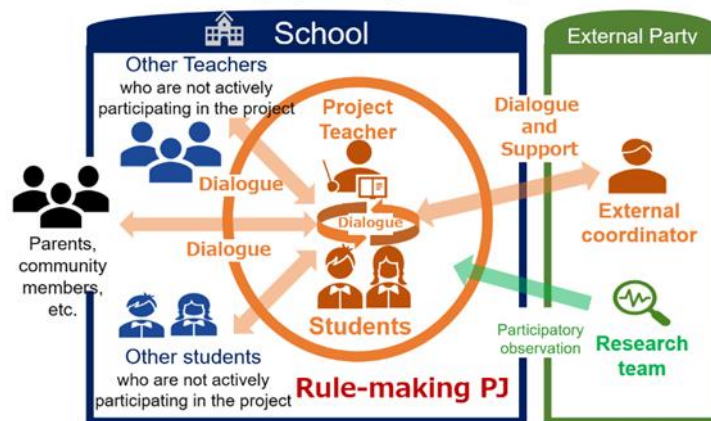


Figure 1: Stakeholder Diagram Created

April	The school decides to participate in the project. Preparation by project teachers
May	<ul style="list-style-type: none"> Recruitment of participating students
June	<ul style="list-style-type: none"> Team-building activities: Creating relationships between students, teachers, and external coordinators Formulation of an annual plan
July	Step 1: Form a basic understanding of the rules
Aug	Step 2: Form a basic understanding of dialogue
Sep	Step 3: Find and list rules and school regulations to review
Oct	Step 4: Decide on the rules to review
Nov	Step 5: Create a research plan regarding the rules Step 6: Conduct research and compile data <ul style="list-style-type: none"> Interviews Surveys for students and teachers Collection of opinions through open doors, etc.
Dec	Step 7: Create a draft for rule revision
Jan	Step 8: Propose the rule revision draft to the school management
Feb	Step 9: Prepare for the implementation of the new rules, publicize within the school
Mar	Approval and commencement of new rule operation
April	
May	Step 10: Reflect on the project

Table 1: Annual Activity Schedule

(Quoted from NPO KATARIBA "Rulemaking for Everyone" Teachers's guideline)

2.2 Dispatch of External Personnel to Schools

In the "Rulemaking for Everyone" project for the 2021 fiscal year, which this study targeted, coordinators and researchers were dispatched to 13 schools that expressed interest (Figure 1).

The coordinators employed by the NPO KATARIBA are external personnel who participate as accompanying partners in a series of processes aimed at revising the school rules and regulations. The purpose of the coordinators is to reconstruct typical vertical relationships between evaluators and those being evaluated within schools by introducing an external third party to bridge the gap between students and teachers. This aims to build a horizontal relationship in which students and teachers can engage in candid dialogues.

2.3 Positioning of Learning Through Dialogue in the Project

In "Rulemaking for Everyone," "dialogue" is defined as a discussion conducted in a free and open atmosphere aimed at deepening understanding of others and generating new ideas. Teaching materials and training sessions focus on preparing the grounds for dialogue by emphasizing the importance of respecting each individual's voice, ensuring the right to propose ideas, and organizing points for consensus building when opinions differ. Participants were encouraged to progress through the project by engaging in dialogue (NPO KATARIBA, 2022). Such materials and the dispatch of coordinators are intended to facilitate the horizontalization of relationships among project participants and foster a mindset geared toward engaging in dialogue not as a mere conversation but as interactive learning within an educational program. Considering the project's duration of approximately one year, it is anticipated that various dialogues may be repeated among stakeholders, centered on the participating students according to the stages of the activity (Figure 2). After joining the project, students receive an explanation of how to proceed with the project from coordinators and teachers. Subsequently, they (1) deliberate on the rules to review among themselves. During this phase, consensus building among participants can be advanced through repeated dialogue with fellow participants, teachers, and coordinators. Next, they (2) investigate the actual state of the rules to be reviewed; dialogues are conducted through questionnaires, opinion exchange meetings with the entire student body and teachers not participating in the activity, and hearings with parents and community members to form a common understanding of the direction and current state of the rules to be reviewed among participating students, responsible teachers, and external personnel. Then, by (3) selecting school rules for revision, the opinions of participating students on the rules to be reviewed are refined, leading to (4) a proposal for revision to the school administration at the final stage of the activity. Here, participating students engage in dialogue with school management, including principals and vice principals. As these discussions are positioned not as presentations of results but as opportunities for dialogue, they may involve multiple sessions of negotiations in response to critical opinions from school management.



Figure 2: Transition of Dialogue Activities with Stakeholders

3. Research Methods

3.1 Survey

After completing approximately a year of activities, semi-structured interviews were conducted with participating students and teachers. The main topics of the questions were their feelings about participating in the activity, self-perceptions, and changes within the school. The interview data were not collected for this study, but were obtained with the consent and cooperation of NPO KATARIBA, as they were originally gathered by NPO KATARIBA for evaluating their project. As an ethical consideration, explanations and consent regarding the use of the data for research purposes were obtained from NPO KATARIBA, the interviewees' affiliated schools, and participants. To ensure anonymity, identifiable information, such as names, affiliations, and school locations, was replaced with codes or symbols.

3.2 Research Subjects

This study targeted 4 high school students, 2 middle school students, 10 high school teachers, and 2 middle school teachers (Table 2). Among the teacher interviews, those related to changes in student attitudes were included in the analysis of student interviews to simultaneously analyze the students' and teachers' perspectives.

■ Student

Participant	School	Grade Level	Text Provided	Number of Theoretical Descriptions
Student A	High School Student	11th	66	6
Student B	High School Student	10th	80	6
Student C	High School Student	10th	12	5
Student D	High School Student	10th	14	7
Student E	Middle School Student	7th	51	11
Student F	Middle School Student	8th	31	7
Total			254	42

■ Teachers

Participant	School	Text Provided	Number of Theoretical Descriptions
Teacher A	X High School	121	35
Teacher B			
Teacher C			
Teacher D			
Teacher E			
Teacher F			
Teacher G			
Teacher H	Y High School	132	39
Teacher I			
Teacher J			
Teacher K	Z Middle School	35	20
Teacher L			
Total		288	94

Note: The interviews with teachers were conducted as group interviews, and the analysis was carried out for each school.

Table 2: Interview Participants

3.3 SCAT

The Steps for Coding and Theorization (SCAT), developed by Otani (2008, 2011), was used for analysis. SCAT is a qualitative data analysis method that is effective for small-scale data analysis, characterized by its explicit demonstration of the analytical process and its ability to derive storylines and theoretical descriptions. SCAT involves describing textualized data in a table and coding them through four steps: (1) phrases in the data that should be noted, (2) phrases outside the data to rephrase them, (3) phrases to explain (2), and (4) emerging themes and conceptual constructs. This process entails coding the themes and conceptual constructs in a table, weaving them into a storyline, and generating theoretical descriptions. Here, "theoretical descriptions" refer not to universally applicable principles but to insights specific to the analyzed data (Otani, 2008, 2011). In this study, similar theoretical descriptions were categorized to capture changes attributed to personal characteristics and experiences, as well as changes occurring owing to the activity, and for analyzing the transformation in students' attitudes and the factors behind them. The analysis was primarily conducted by the first author, and the validity of the findings was reviewed multiple times with co-authors based on the SCAT tables.

4. Results

4.1 Results of SCAT for Students

The SCAT of the student interviews generated 42 theoretical descriptions. These were grouped into similar categories, as listed in Table 3.

Category	Subcategory	
1. Participation in activities fosters the development of self-esteem, self-efficacy, and motivation	1-①. Self-esteem, self-efficacy, and motivation are cultivated through relationships with others	1-①-1. Altruistic activities promote the development of self-esteem
		1-①-2. Attention and support from others cultivate self-efficacy and motivation
2. Interactions with others promote cognitive deepening and expansion	1-②. The realization of personal growth fosters the development of self-esteem	
	2-①. Interactions with others enhance tolerance for diversity and empathy	
	2-②. Listening to the opinions of others acquires an alternative perspective	
3. Explicitly stated rules of activities and dialogues, and the intervention of external personnel, create psychological safety	2-③. Introspection during interactions with others deepens self-understanding	
	3-①. The intervention of external personnel and the clarification of activity purposes generate psychological safety	
	3-②. Providing psychological safety through dialogue-driven activities and environment creation	
	3-③. Teacher-led environment creation and monitoring ensure psychological safety	

Table 3: Categories of SCAT result of Students

4.1.1 Categories and Subcategories of Theoretical Descriptions From Student SCAT

Theoretical descriptions related to changes in students' attitudes were organized into three categories: (1) Participation in activities fosters the development of self-esteem, self-efficacy, and motivation; (2) Interactions with others promote cognitive deepening and expansion; and (3) Explicitly stated rules of activities and dialogues and the intervention of external personnel, creates psychological safety. They were further divided into ten subcategories.

4.1.2 Cultivation of Self-Esteem, Self-Efficacy, and Motivation

In this category, that is, [1. Participation in activities fosters the development of self-esteem, self-efficacy, and motivation], there are two subcategories: [1-①. Self-esteem, self-efficacy, and motivation are cultivated through relationships with others] and [1-②. Realization of personal growth fosters self-esteem]. [1-①] concerns changes in students' self-perception, such as the cultivation of self-esteem, self-efficacy, and motivation, attributed to their relationships with others. By contrast, [1-②] is concerned with changes in self-perception due to personal growth. Changes in students' self-perception due to their relationships with others were further divided into two parts: [1-①-1. Altruistic activities promote the development of self-esteem] and [1-①-2. Attention and support from others cultivate self-efficacy and motivation] (Table 3). Not only does subjective praise from teachers to students have a positive effect on the cultivation of students' self-efficacy (Iijima et al., 2020), but receiving attention within student–student relationships also impacts students' self-esteem, self-efficacy, and motivation. Additionally, in activities, the five antecedents of self-esteem: 1) Mastery experiences (experiences of achieving goals on one's own), 2) Vicarious experiences (observing someone else achieve their goals), 3) Verbal persuasion (being told about one's skills or capabilities), 4) Physiological and emotional arousal (experiencing a motivational boost), and 5) Imaginal experiences (imagining oneself achieving goals) (Bandura, 1995). These suggest that dialogues between teachers and students or among students enhance mastery experiences and verbal persuasion through repeated experiences, improve vicarious experiences by observing other students' achievements, thereby increasing

physiological and emotional arousal, and improve imaginal experiences, suggesting a boost in self-esteem.

4.1.3 Interaction With Others and the Deepening and Expansion of Cognition

The category [2. Interactions with others promote cognitive deepening and expansion] refers to the changes in cognitive skills attributed to interactions with others during activity. There are three subcategories: [2-①. Interactions with others enhance tolerance for diversity and empathy]; [2-②. Listening to the opinions of others acquires an alternative perspective]; and [2-③. Introspection during interactions with others deepens self-understanding]. They were organized to separate the content and causes of transformation (Table 3). Tsuneoka and Takano (2012) suggested that the process of attitude transformation through interactions with others tends to lead to increased self-esteem and greater tolerance toward others through the acquisition of other perspectives. Similarly, we found that participating students experienced attitude transformations through a similar process, acquiring other perspectives and enhancing tolerance and empathy, followed by promoting introspection within their interactions with others.

4.1.4 Psychological Safety Provided by the Structure of Activities

The category [3. Explicitly stated rules of activities and dialogues, and the intervention of external personnel, create psychological safety] consists of three subcategories: [3-①. Intervention of external personnel and the clarification of activity purposes generate psychological safety], [3-②. Providing psychological safety through dialogue-driven activities and environment creation], and [3-③. Teacher-led environmental creation and monitoring ensure psychological safety] (Table 3). These are organized based on students' theoretical descriptions that identify the clarification of the activity's rules and the intervention of external personnel as factors that bring about psychological safety, which is a trigger for attitude change. Psychological safety is classified from three perspectives: the project's structure, such as the intervention of external personnel and the clarification of the activity's purpose; the process of dialogue-based activities; and teacher-led space creation and supervision. These mechanisms encourage attitude transformation by providing psychological safety to students. The process of learning through dialogue, intervention, and accompaniment by external personnel was intended as a part of the project and functioned well. However, teacher-led space creation and supervision, although not explicitly intended as part of the project's structure, were observed to be crucial in building psychological safety among participating students and in fostering motivation and self-esteem during activities through encouraging engagement.

4.2 Results of SCAT for Teachers

The SCAT of the teacher interviews generated 93 theoretical descriptions (Table 4).

The SCAT of teachers was classified into five categories and thirteen subcategories: [1. Construction of psychological safety by project teachers], [2. Students' sense of growth promotes the development of self-esteem and motivation in teachers], [3. Reconstructing values through the broadening perspective of project teachers], [4. Challenges in expanding activities], and [5. Teachers' conflicts]. Each of the five categories and thirteen subcategories is described below.

Category	Subcategory	
1. Construction of psychological safety by project teachers	1-① Building psychological safety through involvement with external personnel and structuring of activities	
	1-② Building psychological safety through attention and support from within the school	
2. Students' sense of growth promotes the development of self-esteem and motivation in teachers	—	
3. Reconstructing values through the broadening perspective of project teachers	3-① Changes in educational views and between students due to the broadening perspective of project teachers	
	3-② Promotion of introspection due to the broadening perspective of core teachers	
	3-③ Recognition of authority due to the broadening perspective of core teachers	
4. Challenges in expanding activities	4-① Challenges in expanding to all students	
	4-② Inhibiting factors from other teachers	4-②-① Cultural and organizational challenges
		4-②-② Challenges in differences in values among teachers and in cultivating a sense of ownership
		4-②-③ Challenges in teachers' experience with dialogic communication
5. Teachers' conflicts	5-① Anxiety and doubt about one's own values	
	5-② Anxiety about personalization	
	5-③ Anxiety about loss of authority	

Table 4: Categories of SCAT result of teachers

4.2.1 Building Psychological Safety Among Project Teachers

The category [1. Construction of psychological safety by project teachers] consists of two subcategories: [1-① Building psychological safety through involvement with external personnel and structuring of activities] and [1-② Building psychological safety through attention and support from within the school]. These were classified based on descriptions of the construction of psychological safety as one of the factors that triggered attitude transformation among project teachers who participated in the activity. The aspects of psychological safety are organized from two perspectives: interaction with external personnel and attention and support from within school. In the activities, external personnel, known as coordinators, were deeply involved, facilitating activities through dialogue between students and teachers and providing expertise as advisors to teachers. The coordinators supported student activities and individual meetings with teachers on how to proceed with activities, supported reporting at training sessions and meetings for teachers not participating in the activities, and provided advisory support to teachers. From the theoretical descriptions in teacher interviews, teachers perceived the presence of coordinators as a close source of inquiry and consultation, thereby gaining psychological safety from this structure.

Additionally, as this activity was application-based at the school level, it was officially recognized as a public activity by the school at the start, with certain support and recognition from within the school. Attention and encouragement from school administrators and fellow teachers regarding the progress of the activities seemed to contribute to the psychological safety of the teachers involved.

4.2.2 Students' Sense of Growth Fosters Teachers' Self-Esteem and Motivation

The category [2. Students' sense of growth promotes the development of self-esteem and motivation in teachers] uses theoretical descriptions, suggesting that teachers who participated in the activity cultivated self-esteem and motivation upon recognizing students' sense of growth. Teachers involved in the activities observed students actively participating in and receiving positive feedback on students' changes from other teachers, which in turn fostered their motivation for the activity.

4.2.3 Value Reconstruction Through the Expansion of Project Teachers' Perspectives

The category [3. Reconstructing values through the broadening perspective of project teachers] reflects how teachers participating in the activities deepened their understanding of students through dialogue, transformed students' attitudes through the activities, and changed their views on education and students through interactions with external personnel. These theoretical descriptions have been divided into the following three subcategories based on the content of the transformation: [3-① Changes in educational views and between students due to the broadening perspective of project teachers]; [3-② Promotion of introspection due to the broadening perspective of core teach]; and [3-③ Recognition of authority due to the broadening perspective of core teachers], teachers involved in the activities have been observed to become aware of their authority and the impact of their words on students through interactions and dialogues with students.

4.2.4 Challenges in Expanding Activities

The category [4. Challenges in expanding activities] discusses the inhibiting factors experienced by teachers attempting to expand their activities within schools. These factors are categorized into [4-① Challenges in expanding to all students] and [4-② Inhibiting factors from other teachers], further dividing the challenges related to teachers' involvement in the expansion of activities into [4-②-① Cultural and organizational challenges], [4-②-② Challenges in differences in values among teachers and in cultivating a sense of ownership], and [4-②-③ Challenges in teachers' experience with dialogic communication]. For clarity, these subcategories organize the challenges into three perspectives.

4.2.5 Teachers' Conflicts

The category [5. Teachers' conflicts] address the conflicts felt by teachers who participated in the activity regarding themselves and those perceived by teachers who did not participate. These conflicts are categorized into three perspectives: [5-① Anxiety and doubt about one's own values], [5-② Anxiety about personalization], and [5-③ Anxiety about the loss of authority].

Teachers' introspection was influenced by the expression of differences in opinions and values through activities that facilitated dialogue between teachers who participated and those who did not. In the school administration context, teachers rarely have the opportunity to discuss and showcase their educational views and values. However, through the status reports of the activity and proposal meetings with students involving teachers who did not participate, the differences in educational views and values between the participating teachers became clear; this served as an opportunity for self-reflection. Furthermore, continuous engagement with the participating students as individuals and observation of their autonomous actions within the activity led to a positive change in the participating teachers' perceptions of the students. These introspective factors, overlapping in complexity, led participating teachers to reevaluate the concept of teacher authority.

5. Discussion and Conclusions

5.1 Changes in Students and Teachers in Extracurricular Activities Promoting Learning Through Dialogue Collaboration Between External Personnel and Schools

By categorizing the results of the SCAT for both students and teachers, this study analyzed the changes in students and teachers in extracurricular activities that promote learning through dialogue and collaboration between external personnel and schools. The results are summarized as follows.

Changes in students include the cultivation of self-esteem, self-efficacy, motivation, acquisition of diverse perspectives, and empathy toward diversity. Changes in teachers are characterized by a positive shift in their perceptions of students and the reconstruction and broadening of educational views and values.

The main factors common to changes in both students and teachers include psychological safety facilitated by the structuring of activity rules, interactions with others, setting open-ended tasks, and the establishment of horizontal relationships through the intervention of external personnel. Dialogue-based activities and the collaborative effort between external personnel and schools positively influenced these changes. While changes were observed in both students and teachers, the elements of the educational program that fostered student autonomy are discussed in detail in the following section.

5.2 Elements of the Educational Program That Promoted Student Dialogue

Three key elements of the educational program facilitated autonomous dialogue among the participating students. The first is the establishment of horizontal relationships through the intervention of external personnel. From the outset, the project anticipated dialogue activities not only among students but also between students and teachers, and between students and external personnel, foreseeing interactions with individuals perceived as diverse by students. Overcoming the traditional hierarchical relationships between students and teachers within a school is particularly necessary. To this end, the project explicitly aimed to ease tensions among stakeholders through the intervention and accompaniment of external personnel and by implementing projects through dialogue-based activities. This enabled participating students to engage in dialogue while constructing horizontal relationships with project stakeholders.

The second element was teacher participation and oversight. At the start of the project, as a run-up to building a trusting relationship between participating students and external personnel, teachers provided psychological safety to students through their presence and oversight.

The third element is setting relatable tasks. The project focused on the revision of school rules, a subject matter that directly involves both students and teachers as stakeholders in school life, making it comparatively easy to express opinions and empathize with and accept the views of others. Activities such as hearings could be conducted within the immediate context of the school, involving other students and teachers, fostering ongoing dialogue among stakeholders, and providing learning opportunities for participating students over the course of approximately one year. Thus, the project was designed around relatable issues and incorporated numerous mechanisms for building psychological safety among participating

students. These mechanisms functioned effectively to encourage the practice of activities through autonomous dialogue among participating students.

5.3 Future Prospects

Education has made progress in introducing and practicing learning through dialogue and collaboration with external personnel in classrooms. However, the introduction of these practices into extracurricular activities has been limited. This study focused on schools participating in "Rulemaking for Everyone," an extracurricular activity aimed at revisiting school rules, as a case study, to examine the transformation in attitudes and factors influencing both students and teachers. The interviews analyzed in this study were conducted after the activities (and decisions on school rule revisions) were completed, with some or all proposed changes being accepted in all schools involved. This suggests that the activities may have been perceived as having positive outcomes by both students and teachers.

Further research through long-term participatory observations and mid-activity interviews could clarify the factors influencing changes in attitudes more precisely. Although the analysis focused on changes in both students and teachers, the discussion centered primarily on students as learners. The analysis did not detail the impact of non-participating students' attention and interest in participating students, or the conflicts and introspections experienced by teachers through dialogues with their colleagues. Focusing on these aspects for further analysis and considering the impact of interactions with external personnel on school management and organization could contribute to the realization of schools that are open to society.

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