

Effective Teaching-Learning Process for Training Assertive Communication Skills

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The purpose of this study was to investigate teaching-learning processes for training life skills. A life skills training program with a focus on assertive communication skills was conducted at elementary schools in Chiba prefecture and Tokyo on 278 fifth-grade students.

The basic training for life skills development includes the following five stages;

- 1) Instruction: Learning the meaning of assertive communication skills (cognitive domain),**
- 2) Modeling: Observing the model,**
- 3) Practice: Participating in role-play,**
- 4) Feedback: Receiving positive feedback and comments on their role-play from other students,**
- 5) Reinforcement: Writing a statement declaring the intention to use assertive communication in everyday life.**

Cognitive domain (how to develop assertive communication skills) was used in the instruction stages, and self-efficacy formation (affective domain) was used in the modeling, practice, and feedback stages.

Students were placed into one of four training programs: a cognitive and self-efficacy formation training program (80 students), a cognitive domain training program (55 students), a self-efficacy formation training program (56 students), and a program for basic development of life skills (87 students). An assertiveness scale, self-efficacy scale and self-esteem scale for children were used for evaluation before the class, right after the class, a week after the class and a month later. Formative assessment was used in class.

The main results were as follows:

- 1) The group which adopted cognitive domain development attained skills more effectively immediately after the class. The group that adopted affective formation (self-efficacy formation) was able to attain the skills more effectively after one week, and also one month after the class.**
- 2) It was effective to incorporate cognitive development and self-efficacy formation into the teaching-learning process when trying to develop assertive communication skills.**

It can be concluded from this study that, in addition to the five basic processes of life skill development, it is effective to incorporate a 'how to develop' assertive communication skills program as well as self-efficacy formation into the teaching-learning process for assertive communication training.

Keywords: teaching-learning process, assertive communication skills, cognitive domain (development), affective domain (formation)

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1. Introduction

The Division of Mental Health of the World Health Organization (WHO) established guidelines for life skills education in 1994 and advocated its introduction into school curricula worldwide to help children and adolescents acquire life skills in the early stage of their development and enable them to avoid risky situations (e.g., drinking, smoking, drug-abuse, school truancy, and stress) (WHO, 1994). In the guidelines, life skills are defined as “abilities for adaptive and positive behavior that enable individuals to deal effectively with the demands and challenges of everyday life.” The “abilities” here indicate psychological/social skills, which are roughly classified into five groups and ten categories, and include skills for communication, coping with emotions, coping with stress, and problem solving (WHO, 1994).

To clarify the status of life skills education provided as part of health education (HE) at Japanese schools, physical education teachers and school nurse teachers in charge of HE were asked to indicate what they believed was the most necessary life skills education category (of the five groups and 10 categories) and what they felt were problems associated with life skills education (Ono et al., 2002; Watanabe et al., 2006). Respondents indicated that communication was the most important life skills and that problems associated with life skills education were “a lack of knowledge in life skills education methods” and “difficulties in assessing students.” Reports on current life skills education programs also indicate the presence of controversial issues. For example, in an analysis based on the taxonomy of educational objectives (Kajita, 2005), some teachers solely placed their emphasis on the formation of skills (behavior domain) without approaching the target education from the cognitive or affective domains while other teachers provided life skills education without evaluating whether it was effective in helping students acquire or reinforce the skills being taught. In order to further enhance and promote life skills education, it is necessary for educators to approach it from all three target educational domains: the cognitive, affective, and behavior domains. In other words, it is necessary to incorporate cognitive development (the cognitive domain) and affective development (the affective domain) into the basic teaching/learning process of skill formation, which is

an approach from the behavior domain (Aikawa and Tumura, 1996; Kokubun, 1999). It is also important to develop an effective teaching/learning process based on results of assessments (formative evaluations, and immediate, follow-up assessments).

Life skills education should emphasize communication skills, which teachers have indicated as the most important. Wolpe et al. (1996) classified communication patterns into three categories: self-centered communicators with no consideration for others (aggressive pattern), unselfish communicators who give full priority to others (passive pattern), and communicators who prioritize themselves but with due consideration for others (assertive pattern). To develop assertive communication skills, Bower et al. suggest that individuals need to describe the other party, express your mind, specify your idea, and explain why you choose to think so (Bower et al., 1991). Therefore, it is of significant importance to deepen individual awareness of these four essential activities to develop assertive communication skills.

To achieve effective development, attention should also be paid to the association with self-esteem and self-efficacy, which are thought to be involved in the enhancement of life skills, including communication skills (WHO, 1994; Ohtsu, 1999). It has been clarified that self-esteem and self-efficacy are deeply related to communication skills (Maeda et al., 1998; Yamada et al., 2003). Of these, self-efficacy is defined as “one’s belief in one’s ability to take the action to produce certain results” (Bandura, 1977), and this affects individual behavior. It has been reported that high self-efficacy influences motivation for the learning or achievement of life skills regardless of the degree of innate skill (Iida et al., 2001). This indicates that life skills development may be effectively achieved through four approaches (sources of information) for the enhancement of self-efficacy advocated by Bandura (1997): “enactive attainment,” “vicarious experience,” “physiological and effective states,” and “verbal persuasion”.

This study aimed to show that incorporation of cognitive development and affective development (self-efficacy formation) in the basic life skills teaching/learning process was effective for the formation of assertive communication skills.

In a one-hour group instruction setting, there is a limit to the formation of assertive communication skills without continuous intervention. In this study, therefore, validation was performed with a focus on

cognitive development and affective development as the basic stage in the formation of assertive communication skill.

2. Methods

2.1. Subjects

As shown in **Table 1**, questionnaire and experimental class (HE) were conducted for 278 fifth grade students (147 boys and 131 girls) at elementary schools A and B in Chiba Prefecture during the period from September to December 2007. During the period from November to December 2007, questionnaires were conducted on 121 fifth grade students (60 boys and 61 girls) at elementary schools C and D in Chiba and E in Tokyo.

2.2. Method of Teaching the HE Class

2.2.1. Goal of the Class

The teaching material selected for the class was “(A) Mental Development” in “Mental Health”, a booklet for 5th graders designed for use in the HE section of physical education specified in the current elementary school course of study (Ministry of Education, Culture, Sports, Science, and Technology, 2008). The goal of the class was for children to acquire self-expression skills that would enable them to express their own opinions to others. “Acquirement of self-expression skills” in this case was defined as the ability to use assertive communication skills. The sub-goals (from the viewpoint of formative evaluations) of the class are listed under point (1) to

(4) below. Because of the possibility of children to erroneously interpret the term “assertion” as “self-centered” behavior associated with the attitude of being concerned only with oneself, the term was replaced with “self-expression” in the class in order to ensure that all the children understood that the target term implied consideration not only for oneself but also for other people as well as to use the same term presented in the school curriculum guidelines.

(1) Interest/ willingness/ attitude (Anderson and Krathwohl, 2001): The ability to participate in role-playing to acquire self-expression skills.

(2) Cogitation/ judgment/ expression (Anderson and Krathwohl, 2001): The ability to choose the most preferable of the three communication patterns. The ability to find four essential factors in self-expressive lines and underline the applicable parts.

(3) Knowledge/ understanding (Anderson and Krathwohl, 2001): The ability to explain each of the three communication patterns.

(4) Life skills: The ability to deliver self-expressive lines with true feelings in the role-play.

2.2.2. Instruction Group and Non-Instruction Group (Control Group)

As conditions for class design, cognitive formation was to be developed as follows: In the “Instruction” process in the basic life skills teaching/learning process presented in **Table 2**, it was decided to lead the children to attain cognitive development in terms of the four essential factors for assertive communication: 1) Describing the other party, 2) Expressing your mind, 3) Specifying your idea, and 4) Explaining why you choose to think so. These

Table 1 Subjects of the instruction group and the control group

	School location	School size	Subject	
Instruction group				
Cognitive development/ self-efficacy formation group	Y City (medium size city)	A Elementary School (large)	2 classes: 54 children	80 children
	F City (medium size city)	B Elementary School (medium)	1 class: 26 children	
Cognitive development group	Y City (medium size city)	A Elementary School (large)	1 class: 30 children	55 children
	F City (medium size city)	B Elementary School (medium)	1 class: 25 children	
Self-efficacy formation group	Y City (medium size city)	A Elementary School (large)	1 class: 31children	56 children
	F City (medium size city)	B Elementary School (medium)	1 class: 25 children	
Basic group	Y City (medium size city)	A Elementary School (large)	2 classes: 60 children	87 children
	Y City (medium size city)	B Elementary School (medium)	1 class: 27 children	
Control group	Y City (medium size city)	C Elementary School (medium)	2 classes: 45 children	121 children
	I County (rural)	D Elementary School (medium)	2 classes: 45 children	
	S Ward (urban)	E Elementary School (medium)	1 class: 31children	

Table 2 Teaching/ Learning Process in the Cognitive Development/ Self-Efficacy Formation Group

Process	Lesson and activities	Support from the teacher	Assessment/ teaching material
<u>Recognize</u>	<u>Question 1</u> When do we usually become (1) angry, (2) frustrated, or (3) nervous? • Write your answers for (1) to (3) on the worksheet.	• Have several children write their answers on the blackboard.	Worksheet (WS) 1
<u>Find</u>	<u>Explanation 1</u> We often experience stress, such as getting frustrated over trouble associated with others. It is important to communicate well with others to establish good relationships.		WS 2
<u>Think</u>	<u>Question 2</u> There are three types of communication methods: passive, aggressive, and assertive. Which type do you think is ideal? Write your answer in the box. <input type="text"/> • Selected children perform three types of communication in front of the other children.	<u>Explanation 2</u> Explain the three communication types and four factors of establishment of assertive communication skills.	Formative assessment (3)
<u>Instruction</u> (a) Cognitive development	<u>Question 3</u> Underline the parts that represent any of the four essential factors of assertive communication and put the corresponding number (1 to 4) under each line. *(a) • Children underline the applicable parts. • Children raise their hands if they have any questions.	<u>Explanation 3</u> Explain the parts that represent the four factors of establishment of assertive communication skills.	WS 3 Formative assessment (2)
<u>Develop</u>	<u>Instruction 1</u> Your friends will play roles for assertive communication. *(b) Pay attention to their attitudes (postures, lines of sight) and manner of speaking (calmness) when you see them playing. • The selected children perform role-playing in front of the other children.	• Call the two children who have practiced role playing before the class.	Formative assessment (1)
<u>Modeling</u> (b) Vicarious experience	<u>Work 1</u> Practice assertive communication through the role-playing activity. <u>Calm yourself down by closing your eyes for 20 seconds before the role-play.</u> * (c) <u>The goal of this activity is to make you capable of delivering assertive lines with true feelings. Do your best to achieve the goal.</u> *(d) • Each child plays a role with a friend sitting next to them.	• Explain the procedure of role-playing.	WS 4
<u>Practice</u> (c) Physiological and affective states (d) Enactive attainment	<u>Summary</u> Promise: I promise to adopt an assertive communication style from DD MMM YYYY. • Children write their partner's comments and their own comments in the applicable boxes.	• Make each pair of children switch roles.	Formative assessment (4)
<u>Feedback</u> (e) Verbal persuasion	<u>Work 2</u> After the activity, ask your partner <u>what part of your performance he/she found good</u> *(e), and write it in the box (1). Also write your own comment in box (2). (1) <input type="text"/> , (2) <input type="text"/> • Children write a promise.	• Summarize the lesson given in the class.	
<u>Utilize</u> <u>Reinforcement</u>			

Note 1) The underlined part represent the teaching/ learning process

Note 2) The boxed parts represent the basic training for life skills (five stages)

Note 3) (a) represents cognitive development, and parts, (b) to (e) represent self-efficacy formation (affective development)

Note 4) Formative assessment (1) (interest/ willingness/ attitude), (2) (cognition/ judgment/ expression), (3) (knowledge/ understanding), and (4) (life skills) from the same viewpoints as those of the sub-goals

four factors were further simplified to make them easier for the children to learn in the following ways: description, expression, specification, and choice.

For affective development, the four approaches useful for enhancing self-efficacy were actively and purposefully incorporated in “modeling”, “practice”, and “feedback” in the basic life skill teaching/learning process. To be more specific, “vicarious experience” was incorporated in the “modeling” process in the basic life skills teaching/learning process. “Vicarious experience” is an approach to self-efficacy development that involves looking at others who are less capable but still able to pull something off and thinking “I can do this too” (Bandura, 1997). In this study, two children who had been poor at assertive

communication were chosen to assume assertive roles in role-playing. They learned their self-assertive lines in advance and played their roles during the class. By observing the two non-assertive children playing assertive roles, the other children were expected to feel that they were also able to play the same roles and thereby develop self-efficacy. Meanwhile, the two children were expected to strengthen self-efficacy after the successful experience of delivering their assertive lines in front of others.

“Enactive attainment” and “physiological and affective states” were incorporated into the “practice” process, and “verbal persuasion” was in the “feedback” process. “Enactive attainment” is an approach to enhancing self-efficacy that involves

setting goals, actually performing activities, and having successful experiences (Bandura, 1997). Tsunoyama reported that setting a non-difficult goal before practicing mathematical calculations enhanced learners' spontaneous motivation and self-efficacy, and helped them acquire calculation skills (Kakuyama, 1985). In this study, the teachers set a goal (learn to deliver self-expressive lines with true feelings) immediately before entering the "practice" process and then led the children to participate in role-playing activities.

"Physiological and affective states" are sources of self-efficacy. By reducing fear or stress levels before performing an activity, one can enhance self-efficacy (Bandura, 1997). Maeda et al. reported that closing eyes and calming down before playing assertive roles in role-playing activities were effective in helping learners strengthen self-efficacy and acquire assertive communication skills (Maeda, 1985; Maeda et al., 1993). In this study, the children were instructed to close their eyes for 30 seconds to calm themselves before the start of role-playing.

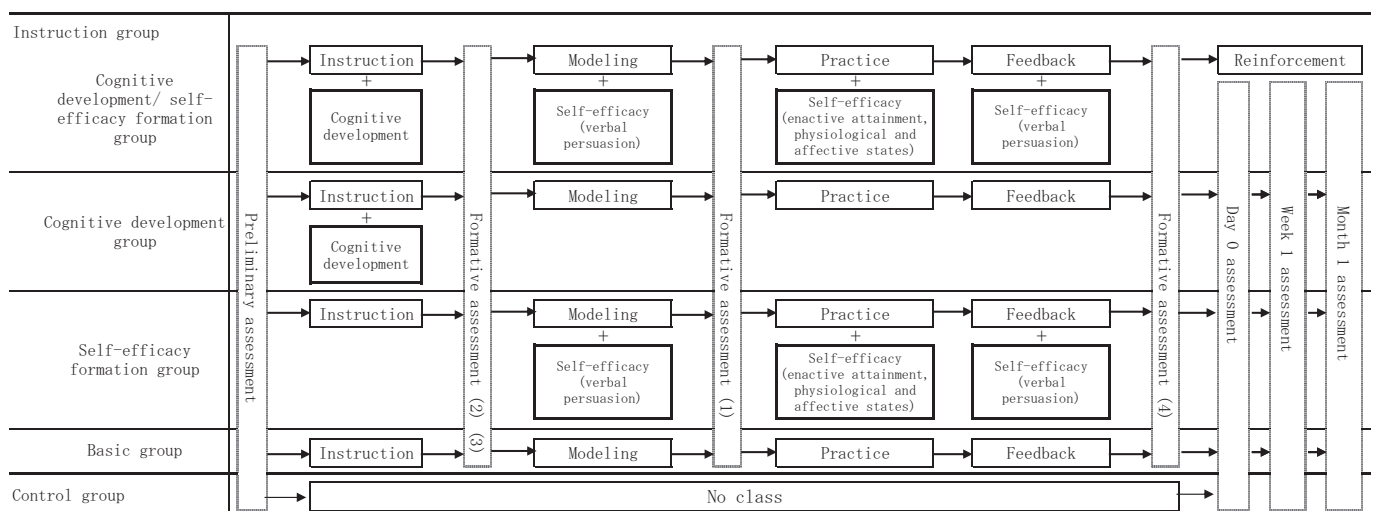
"Verbal persuasion" also contributes to the enhancement of self-efficacy when others verbally express their faith in an individual's ability and efforts to perform an activity (Bandura, 1997). Tojo (1987) pointed out that positive feedback toward performance was effective in strengthening self-efficacy and developing skills. In this study, the children who viewed the role-playing were instructed to tell the children who played the roles how well they performed the activity.

According to these experimental conditions, the students were classified into groups as shown in **Figure 1**. First, they were classified into an instruction group and a control group. The instruction group was further classified into the following four sub-groups: the "cognitive development/self-efficacy formation group", for which cognitive development and self-efficacy formation were incorporated into the basic life skills teaching/learning process; the "cognitive development group", for which the idea of cognitive development was incorporated; the "self-efficacy formation group", for which self-efficacy formation was incorporated; and the "basic group", which was to go through only the basic life skills teaching/learning process.

The self-efficacy formation group and the basic group were not allowed to experience formation of the four factors essential for achieving assertive communication skills. Instead, they were only taught three patterns of communication. Being taught none of the four essential factors for achieving assertive communication skills, they would have 5-minute period of free time during the class. To adjust for this expected gap, they were given a longer time to write down their thoughts at the end of class.

The cognitive development group and the basic group went through the processes of modeling, practice, and feedback. The children in these groups would be inevitably led to acquire self-efficacy in the course of these processes, even though the level might have been low. In order to avoid this potential self-efficacy formation as much as possible, the

Figure 1 Class design conditions in the instruction group and the control group



Note 1) Instruction → Modeling → Practice → Feedback → Reinforcement: Basic life skills teaching/learning process
 Note 2) Formative assessment: (1) interest/willingness/attitude, (2) cognition/judgment/expression, (3) knowledge/understanding, and (4) life skills

following alterations were made for the groups: 1) A pair of teachers played role models in the modeling process; 2) Children performed role-playing activities without having set a goal in the practice process; and 3) Children were asked to point out issues to be improved regarding the role-playing activities in the feedback process.

Besides the instruction group mentioned above, there was a control group which experienced none of the above-mentioned class activities.

2.2.3. Instructors

All scheduled instructors received training beforehand from the author of this study to prevent individual differences from affecting the results of the class. In addition, home room teachers and school nurse teachers received training and reached a shared understanding regarding the way in which the class should be conducted, and they participated in the class as supporters together with the author. They engaged in personal coaching when the children were divided in groups. The school nurse teachers who served as teaching partners in the team teaching setting were members of a study group, to which the author also belonged, and had been well trained in terms of health education.

2.3. Class Assessment

2.3.1. Assessment Scales

As shown in Figure 1, assessment was performed 1 week prior to the class (pre-test), (post-test), 1 week after the class (follow-up I), and 1 month after the class (follow-up II) using the three below-listed assessment scales. The children were requested to fill in the questionnaire by themselves during classes without writing down their names.

a. Assertive Communication Scale (ACS):

Using the 18-item checklist created by Hamaguchi (1993), the children rated each item on a four-level scale from “Applicable” to “Not Applicable” (minimum score: 18, maximum score: 72).

b. General Self-Efficacy Scale (GSES):

Using the 16-item checklist created by Sakano et al. (1986), the children chose “Yes” or “No” for each item (minimum score: 0, maximum score: 16).

c. Self-Esteem Scale (SES):

Using the 10-item checklist created by Rosenberg (1965), children rated each item on a four-level scale from “Agree” to “Not Agree” (minimum score: 10,

maximum score: 40).

2.3.2. Formative Evaluations

Formative evaluations are as shown in the right column of Table 2, Assessment/Material, from i) to iv), which correspond to the sub-goals of the class mentioned earlier. The formative evaluation items were presented on the worksheet used in the class. As instructed by the teacher, the children rated their own performances on a three-level scale consisting of A (Succeeded), B (Did fairly well), and C (Failed), during the class.

2.4. Ethical Considerations in the Study

Each questionnaire started with a statement of the aim of this survey along with a question asking if subjects consented to participate in the questionnaire. After answering this question, they answered the rest of the questions. In cases where subjects did not give their consent, the questionnaire was discontinued then and there.

Concerning intervention in the class, a prospectus and a verbal explanation were given to the principals of the schools and the home room teachers concerned, and a prospectus and a letter of request were given to the guardians of the children to explain the intent of the questionnaire and to obtain permission for their participation. The home room teachers and school nurse teachers also gained the children’s understanding through verbal explanations of the aim of this study.

2.5. Statistics

SPSS for Windows 16.0J was used for statistical analysis, a chi-square test, a t-test (paired), a one-way analysis of variance (unpaired), and a two-way analysis of variance (mixed design, unpaired with class designing conditions, paired with assessment stages). For the two-way analysis of variance, a four by four two-way factorial design was used. The first factor comprised the conditions for class design (methods to introduce cognitive development and self-efficacy formation) and the second factor comprised the assessment stages (pre-test, post-test, follow-up I test, and follow-up II test). In the two-way analysis of variance, main effect/interaction was analyzed. If any interaction was detected, a simple main effect test and a simple main effect multiple

comparison (Tukey-Kramer method) were performed. In addition, Pearson’s product-moment correlation coefficient was performed to analyze changes in scores for ACS, GSES, and SES assessed before the class, immediately after the class, one week after the class, and one month after the class.

3. Results

A one-way analysis of variance (unpaired) was performed for scores for ACS, GSES, and SES rated as pre-test by the instruction group and the control group. No significant difference were seen for any of these assessment scores between the two groups [ACS: $F(4,394) = 1.32$, GSES: $F(4,394) = 1.05$, SES: $F(4,394) = 1.21$; (none of these was significant)]. Therefore, these groups were considered homogeneous.

3.1. Comparison between the Instruction Group and the Control Group

The assessment results in the control group are shown in **Table 3**. When a paired t-test was performed for the changes between the pre-test and post-test, no significant difference in any of the three assessment scales [ACS: $t = 1.18$, GSES: $t = 0.68$, SES: $t = 1.14$]. In order to investigate differences between the

instruction group and the control group, an unpaired one-way analysis of variance was performed for the respective scores for ACS, GSES, and SES in post-test. As a result, significant difference was observed between the instruction group and the control group in all the three assessment scales [ACS: $F = 18.39$, GSES: $F = 10.58$, SES: $F = 15.45$; ($p < 0.01$)].

3.2. Assessment Results in the Instruction Group

3.2.1. The Formative Evaluations

In terms of the formative evaluations performed during the class that is, (1) interest/willingness/attitude, (2) cogitation/judgment/expression, (3) knowledge/understanding, and (4) life skills, we looked at the percentages of the children who assessed themselves as “Succeeded” or “Did fairly”. As shown in **Table 4**, the result was the highest in the cognitive development/self-efficacy formation group in terms of formative evaluations (1) to (4).

Next, a chi-square test was performed to examine differences in percentages among the instruction groups in the formative evaluations (1) to (4). As a result, a significant difference was observed in all formative evaluations. When an adjusted residual analysis was performed for each formative evaluation, (1) to (4), the percentages in the cognitive

Table 3 Mean Score for Each Rating Scale in the Control Group

	Pre-test		Post-test		t value
	Mean	(SD)	Mean	(SD)	
Assertive communication Scale (ACS)	57.1	(13.7)	57.3	(12.3)	1.18
Self-efficacy Scale (GSES)	8.1	(1.6)	8.2	(1.8)	0.68
Self-esteem Scale (SES)	26.9	(7.4)	27.1	(5.6)	1.14

All: n. s.

Table 4 Achievement Rate (%) by the Formative Assessment

	Cognitive development/ self efficacy formation group		Cognitive development group		Self-efficacy formation group		Basic group	χ^2 Value
(1) Interest/willingness/attitude	98.4	[**]	86.0	-	94.5	[*]	85.6	16.62**
(2) Cognition/judgment/expression	90.2	[**]	85.7	[*]	75.4	-	74.6	17.41**
(3) Knowledge/understanding	95.4	[**]	90.8	[*]	80.4	-	79.3	20.38**
(4) Life skills	98.5	[**]	81.4	-	98.0	[**]	79.2	21.39**

* $p < .05$, ** $p < .01$

[]: Assessment based on the adjusted residual analysis

development/self-efficacy formation group and in the self-efficacy formation group were significantly higher in terms of (1) and (4), and the percentages in the cognitive development/self-efficacy formation group and the cognitive development group were significantly higher in terms of (2) and (3).

3.2.2. Assertive Communication Scales (ACS)

The changes in ACS score in the instruction group are shown in **Table 5**. When a two-way analysis of variance (mixed design) (factors: class design conditions and assessment stages) was performed for the ACS scores, a statistical significance was observed in the main effects (class designing conditions and assessment stages) and interactions. Since interactions were observed between them, a simple main effect test was performed. A statistical significance was observed in the simple main effects consisting of assessment stages and class designing conditions.

Using the Tukey-Kramer method, a simple main effect multiple comparison was performed. In terms of class design conditions, a significant difference was observed between the cognitive development/self-efficacy formation group and the cognitive development group/basic group and between the self-efficacy formation group and the cognitive development group/basic group at post-test. When the scores at the follow-up I test and those at the follow-up II test were compared, there were significant differences between the cognitive development/self-efficacy formation group and the other three groups (the cognitive development group, the self-efficacy formation group, and the basic group) and between the cognitive development group and the self-efficacy formation group/basic group.

In terms of class assessment stages, the scores at post-test were significantly higher than those at pre-test for the instruction group. For the cognitive development/self-efficacy formation group and the cognitive development group, the respective scores at the follow-up I and follow-up II test were significantly higher than the scores at pre-test. In the self-efficacy formation group and the basic group, the respective scores at the follow-up I and follow-up II test were significantly lower than the scores at pre-test.

3.2.3. Self-Efficacy Scales (GSES)

The changes in GSES score in the instruction group are shown in **Table 6**. When a two-way analysis of variance (factors: class design conditions and assessment stages) was performed for the GSES scores, a statistical significance was observed in the main effects (class design conditions and assessment stages) and interactions. For these, a simple main effect test was performed. Statistical significance was observed in the simple main effects consisting of class design conditions and assessment stages.

Using the Tukey-Kramer method, a multiple comparison was performed. In terms of class design conditions, a significant difference was observed between the cognitive development/self-efficacy formation group and the cognitive development group/basic group and between the self-efficacy formation group and the basic group at post-test. When the scores at the follow-up I test and those at follow-up II test were compared, there were significant differences between the cognitive development/self-efficacy formation group and the self-efficacy formation group/basic group and

Table 5 Mean Scores for ACS in the Instruction Group

	1. Pre-test	2. Post-test	3. Follow-up I	4. Follow-up II	Simple main effect	Multiple comparison (Tukey-Kramer)
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	F value	Assessment stage
A. Cognitive development/ Self-efficacy formation group	57.1 (13.5)	66.7 (12.2)	66.6 (13.4)	66.4 (13.9)	24.95 ^{***}	1<2 ^{***} , 1<3 ^{***} , 1<4 ^{***}
B. Cognitive development group	57.2 (11.6)	59.9 (14.4)	63.8 (12.8)	63.8 (13.4)	10.86 ^{**}	1<2*, 1<3 ^{**} , 1<4 ^{**} , 2<3*, 2<4*
C. Self-efficacy formation group	56.8 (11.8)	65.6 (10.7)	59.3 (12.3)	58.8 (12.6)	9.24 ^{**}	1<2 ^{**} , 2>3 ^{**} , 2>4 ^{**}
D. Basic group	56.7 (14.1)	59.8 (14.5)	57.9 (11.3)	57.8 (12.4)	5.95 ^{**}	1<2 ^{**} , 2>3*, 2>4*
Multiple comparison - Class design conditions (between groups)	-	A>B ^{**} , A>D ^{**} , C>B*, C>D*	A>B*, A>C ^{**} , A>D ^{**} , B>C*, B>D*	A>B*, A>C ^{**} , A>D ^{**} , B>C*, B>D*		

Main effects - Class designing conditions: F (3, 244) = 18.24, p < .01
 Main effects - Assessment stages: F (3, 244) = 24.93, p < .001
 Interactions: F (9, 244) = 9.64, p < .01

*p < .05, **p < .01, ***p < .001, - n. s

between the cognitive development group and the basic group.

In terms of class assessment stages, the scores at post-test were significantly higher than those at pre-test in the cognitive development/self-efficacy formation group, the self-efficacy formation group, and the basic group. In the cognitive development/self-efficacy formation group and the cognitive development group, the respective scores at the follow-up I and follow-up II test were significantly higher than those at pre-test. In the self-efficacy formation group, the respective scores at the follow-up I and the follow-up II test were significantly lower than that at post-test.

3.2.4. Results in Self-Esteem Scales (SES)

The changes in SES score in the instruction group are shown in **Table 7**. When a two-way analysis of variance (factors: class designing conditions and assessment stages) was performed for the SES scores, a statistical significance was observed in the

main effects (class design conditions and assessment stages) and interactions. For those, a simple main effect test was performed. A statistical significance was observed in the simple main effects consisting of class design conditions and assessment stages.

Using the Tukey-Kramer method, a multiple comparison was performed. In terms of class design conditions, significant difference was observed between the cognitive development/self-efficacy formation group and the cognitive development group/the basic group and between the self-efficacy formation group and the cognitive development group/the basic group at post-test. When the scores at the follow-up I test and those at the follow-up II test were compared, there were significant differences between the cognitive development/self-efficacy formation group and the self-efficacy formation group/basic group and between the cognitive development group and the self-efficacy formation group/basic group.

In terms of class assessment stages, the scores

Table 6 Mean Scores for GSES in the Instruction Group

	1. Pre-test	2. Post-test	3. Follow-up I	4. Follow-up II	Simple main effect	Multiple comparison (Tukey-Kramer)
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	F value	Assessment stage
A. Cognitive development/ Self-efficacy formation group	8.7 (2.4)	11.5 (0.8)	11.2 (1.9)	11.3 (2.2)	10.98***	1<2***, 1<3***, 1<4***
B. Cognitive development group	8.5 (1.9)	9.6 (1.5)	10.1 (1.8)	10.1 (2.1)	6.31**	1<3*, 1<4**
C. Self-efficacy formation group	8.6 (1.4)	10.9 (1.1)	9.2 (2.1)	9.2 (1.8)	5.48**	1<2**, 2>3*, 2>4*
D. Basic group	8.1 (2.7)	9.4 (2.0)	8.6 (1.8)	8.6 (2.1)	3.28*	1<2*
Multiple comparison - Class design conditions (between groups)	-	A>B*, A>D**, C>D*	A>C*, A>D**, B>D*	A>C*, A>D**, B>D*		

Main effects - Class designing conditions: F (3, 244) = 12.17, p < .01
 Main effects - Assessment stages: F (3, 244) = 15.34, p < .01
 Interactions: F (9, 244) = 5.27, p < .05

*p<.05, **p<.01, ***p<.001, - n. s

Table 7 Mean Scores for SES in the Instruction Group

	1. Pre-test	2. Post-test	3. Follow-up I	4. Follow-up II	Simple main effect	Multiple comparison (Tukey-Kramer)
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	F value	Assessment stage
A. Cognitive development/ Self-efficacy formation group	27.3 (6.8)	33.1 (5.1)	33.0 (5.9)	32.8 (5.5)	18.16***	1<2***, 1<3***, 1<4***
B. Cognitive development group	27.0 (5.6)	29.6 (4.8)	31.6 (6.2)	30.9 (6.4)	8.48**	1<2*, 1<3**, 1<4**, 2<3**
C. Self-efficacy formation group	26.5 (5.7)	31.4 (6.4)	28.7 (6.1)	28.1 (7.5)	8.81**	1<2**, 2>3*, 2>4*
D. Basic group	27.1 (4.9)	29.3 (6.8)	27.8 (6.9)	27.5 (5.8)	4.38*	1<2*, 2>4*
Multiple comparison - Class design conditions (between groups)	-	A>B**, A>D**, C>B*, C>D*	A>C**, A>D**, B>C*, B>D*	A>C**, A>D**, B>C*, B>D*		

Main effects - Class designing conditions: F (3, 244) = 14.89, p < .01
 Main effects - Assessment stages: F (3, 244) = 18.45, p < .001
 Interactions: F (9, 244) = 7.38, p < .01

*p<.05, **p<.01, ***p<.001, - n. s

at post-test were significantly higher than those at pre-test in the instruction group. In the cognitive development/self-efficacy formation group and the cognitive development group, the respective scores at the follow-up I and follow-up II test were significantly higher than those at pre-test. In the self-efficacy formation group, the respective scores at the follow-up I and follow-up II test were significantly lower than those at post-test. In the basic group, the scores at the follow-up II test were significantly lower than those at post-test.

3.3. Correlation between ACS, GSES, and SES

Table 8 shows results for the analysis of correlations between ACS and GSES and between ACS and SES in terms of score increase from pre-test to post-test and from pre-test to the follow-up II test. In the cognitive development/self-efficacy formation group, the correlation coefficients between ACS and GSES and between ACS and SES from pre-test to post-test and from pre-test to the follow-up II test were 0.424 to 0.489. Although these values were rather moderate, they showed significant correlations. In the cognitive development group, the correlation coefficients from pre-test to the follow-up II test were 0.237 and 0.248. In the self-efficacy formation group, the correlation coefficients from pre-test to post-test were 0.357 to 0.361. Although these values were rather moderate, they showed significant correlations. In the basic group, no statistically significant results were observed.

4. Discussion

This study aimed to verify whether the teaching/

learning process incorporating cognitive development and self-efficacy formation was effective for the formation of assertive communication skills.

The achievements of the class designed for the formation of assertive communication skills were analyzed through a comparison of the results in the instruction group and the control group, the latter of which only involved questionnaires only. A significant difference in scores at post-test was observed between these two groups. This demonstrates that the class had a certain degree of effect on the instruction group. In order to better clarify the teaching/learning process for more effective assertive communication skills formation, the degree of acquisition of assertive communication skills (post-test) and the degree of reinforcement of said skills (follow-up I and follow-up II test) in the instruction group were investigated

4.1. Effects in the Degree of Acquisition of Assertive Communication Skills

The degree of acquisition was determined based on the state of formation of assertive communication skills immediately after the class.

When examining the scores for ACS at post-test, which showed the degree of acquisition of assertive communication skills, and the scores for GSES and SES, which showed the degree of self-efficacy formation as affective development, the scores in the cognitive development/self-efficacy formation group and the self-efficacy formation group were significantly higher than those in the basic group. This meant that the acquisition of assertive communication skills and self-efficacy formation had been achieved in these two groups.

According to Bandura(1977), it is important to

Table 8 Correlations between ACS and GSES/SES in Score Increase from Preliminary to Day 0/Week 1

		Pre-test → Post-test	Pre-test → Follow-up II
Cognitive development/ Self-efficacy formation group	ACS × GSES	.489 ***	.471 ***
	ACS × SES	.476 ***	.424 ***
Cognitive development group	ACS × GSES	.163 -	.237 *
	ACS × SES	.174 -	.248 *
Self-efficacy formation group	ACS × GSES	.357 **	.189 -
	ACS × SES	.361 **	.163 -
Basic group	ACS × GSES	.164 -	.128 -
	ACS × SES	.159 -	.124 -

Pearson's product-moment correlation coefficients

*p<.05, **p<.01, ***p<.001, - n. s

integrate the four approaches to enhancement of self-efficacy into the process of skill formation in order to further strengthen self-efficacy and to form skills. Sakano et al. (1987) also reported that the use of two approaches (“vicarious experience” and “enactive attainment”) to enhance self-efficacy was more effective in increasing self-efficacy and in helping students acquire assertive communication skills than the use of only one approach (vicarious experience). In this study, therefore, the four approaches were incorporated in the life skills teaching/learning process in order to integrate them.

“Vicarious experience” was incorporated into the “modeling” process in the basic life skills teaching/learning process. To be more specific, children who were usually poor at assertive communication were chosen as coping models to take assertive parts in role-playing activities with assertive dialogues. As the formative evaluation of this modeling process, children were asked whether they had attained the goal for (1) interest/willingness/attitude. The percentages of the children who answered “Succeeded” and “Did fairly well” in the cognitive development/self-efficacy formation group and the self-efficacy formation group were significantly higher than those in the cognitive development group and the basic group. Similar to the preceding study (Sakano, 1987), use of such coping models in this study caused the other children to feel, “I can also play the role if he/she can do it,” and enhanced their self-efficacy to a greater degree than the use of mastery models, which would have allowed them solve tasks without any trouble right from the beginning.

The “enactive attainment” and “physiological and affective states” approaches were incorporated into the “practice” process and “verbal persuasion” was incorporated into “feedback.” For the “enactive attainment” approach, the teachers set a goal (the students will learn to deliver self-expressive lines with true feelings) before starting the role-playing activity in the “practice” process. For the “physiological and affective states” approach, the children were instructed to close their eyes for 30 seconds in order to calm themselves before starting role-playing. For the “verbal persuasion” approach, the children who viewed the role-playing activity were instructed to tell the children who played the roles how well they performed in the activity. For formative evaluation of these activities, children were asked whether they had

attained the goal for (4) life skills. The percentages of the children who answered “Succeeded” and “Did fairly well” in the cognitive development/self-efficacy formation group and the self-efficacy formation group were significantly higher than those in the cognitive development group and the basic group. According to the results of assessments for ACS, GSES, and SES performed immediately after the class, scores in the cognitive development/self-efficacy formation group and the self-efficacy formation group were significantly higher than those in the basic group. The significantly higher scores for ACS suggested that the children had acquired assertive communication skills and the significantly higher scores for GSES and SES suggested that self-efficacy was formed in the children as affective development immediately after the class. In the analysis of correlation between changes in score for ACS and GSES from pre-test to post-test, the children who had gained higher ACS scores at post-test than at pre-test gained higher scores for GSES as well. This indicated that both the enhancement of self-efficacy and the formation of assertive communication skills were achieved by these children. This correlation between self-efficacy and assertive communication skills was similar to that shown in the preceding studies (Maeda, 1985; Sakano et al., 1987; Tojyo et al., 1987; Maeda et al., 1993). It is supposed that the children in the cognitive development/self-efficacy formation group and the self-efficacy formation group formed assertive communication skills immediately after the class because their self-efficacy was enhanced through the four approaches that actively and purposefully heightened self-efficacy.

Therefore, affective development as self-efficacy formation was considered effective in helping students acquire assertive communication skills.

4.2. Effects in Degrees of Reinforcement of Assertive Communication Skills

The degree of reinforcement was determined based on the state of formation of assertive communication skills one month after the class.

When the mean scores for ACS, GSES, and SES at one week and one month after the class were examined, the scores in the cognitive development/self-efficacy formation group and the cognitive development group were significantly higher than those in the basic group. This meant that the

reinforcement of assertive communication skills and self-esteem had been achieved in these two groups.

Cognitive development was incorporated in the “instruction” process in the basic life skills teaching/learning process. To be specific, the cognitive method of teaching the children that assertive communication skills consisted of four essential factors was employed, and the students were required to underline the parts that represented the four factors to reinforce the lesson.

In order to examine the effect of this cognitive development, the children were asked, as the formative evaluation during the class, whether they had attained the sub-goals, (2) cogitation/judgment/expression and (3) knowledge/understanding. The percentages of the children in the cognitive development/self-efficacy formation group and the cognitive development group who answered “Succeeded” and “Did fairly well” in the self-assessment regarding (2) and (3) were significantly higher than those in the self-efficacy formation group and the basic group. These results suggested that their knowledge/understanding was enhanced when they were taught the four factors for assertive communication skills and that their cognition of the four factors was deepened when they were led to think about the factors and to underline the applicable parts. In other words, class activities such as underlining the parts representing the four factors for assertive communication skills contributed to deepening the children’s understanding of the material. However, cognitive development by incorporating the factors for assertive communication skills in the instruction process had no effect on the degree of acquisition of assertive communication skills immediately after the class. This implies that cognitive development of assertive communication skills led the children to realize how they could communicate assertively, but that it was difficult for the students to acquire such skills immediately. Meanwhile, the cognitive development group gradually became able to reinforce assertive communication skills over one week or one month after the class. Ogura (1960) reported that health education enabled children to maintain their behavior as they acquired objective understanding of the law of health, etc. Objective cognitive development for attaining assertive communication skills was supposed to be associated with the maintenance of action.

In the self-efficacy formation group, scores for

ACS, GSES, and SES were decreased one week or one month after the class. Bandura (1997) reported that self-efficacy formed in a specific situation (specific self-efficacy) was likely to deteriorate with the passage of time. Although self-efficacy in delivering assertive lines in a specific situation such as in role-playing was acquired, it may not have been reinforced. Iida et al. (2001) also suggested that temporary formation of self-efficacy was unlikely to be developed into long-term skill formation. It was supposed that self-efficacy formation was effective for the acquisition of assertive communication skills but not for the reinforcement of the skills.

4.3. Effect in Acquisition and Reinforcement of Assertive Communication Skills

Scores for ACS, GSES, and SES in the cognitive development/self-efficacy formation group were higher than those in the cognitive development group and the self-efficacy formation group in terms of degree of acquisition and reinforcement. This is interpreted as follows: a synergistic effect was gained by introducing cognitive development and self-efficacy formation at the same time. This contributed to the acquisition of assertive communication skills and the enhancement of self-efficacy and self-esteem. This is also suggested in the correlation between the enhancement of self-efficacy and assertive communication skills. The correlation coefficients from pre-test to post-test and the follow-up I test in the cognitive development/self-efficacy formation group were higher than those in the cognitive development group and the self-efficacy formation group. This implied that the enhancement of self-efficacy and the formation of assertive communication skills were effectively achieved. Kajita (2005) showed the cognitive domain and the affective domain in the taxonomy and claimed that, when the ability to think and judge (superior in the cognitive domain) and developmental behavior (superior in the affective domain) are formed, skills are formed in the behavior domain at the same time. Because cognitive development and affective development, which were in even more superior positions, were achieved simultaneously in this teaching/learning process, skill formation was supposed to have been effectively achieved.

From all of the above, it has been suggested that incorporation of affective development as cognitive

development and self-efficacy formation in the basic life skills teaching/learning process is effective for acquiring and reinforcing assertive communication skills.

5. Study Limitations

This study was performed on the instruction group and the control group, using an experimental class and questionnaires. However, the intervention sample size in each group was too small to fully clarify the effect of skill formation. In this study, the follow-up II test was the only follow-up assessment on the experimental class. It will be necessary in the future to assess the effects on the class three months, six months, and one year after the class and to investigate the continuity of the skills acquired in greater detail. It will also be necessary to explore ways to apply this technique to a variety of other situations. Since it is difficult to achieve skill formation thoroughly in a group lesson within one class session, other methods for application in life skills education should be investigated.

This study was conducted with a focus on the acquisition of assertive communication skills. In the future studies, it should be clarified whether this method is applicable to the acquisition of other life skills and whether any factor other than self-efficacy has an effect on life skills formation.

6. Conclusion

This study aimed to verify whether the basic life skills teaching/learning process with cognitive development and self-efficacy formation was effective for the formation of assertive communication skills.

The effects of a class designed for formation of assertive communication skills were evaluated. The evaluation showed that the class had an effect on the instruction group to a certain degree. In order to find more effective teaching/learning processes for the formation of assertive communication skills, class design conditions were specified within the instruction group, and the formation (acquisition/reinforcement) of skills was investigated.

In the "Instruction" process in the basic life skills teaching/learning process, cognitive development was attempted in terms of the four essential factors for the formation of assertive communication skills. Its effect was observed on reinforcement of the skills one week

and one month after the class. For the processes, "Modeling", "Practice", and "Feedback", affective development was attempted by incorporating the following techniques that could contribute to enhancement of self-efficacy: "vicarious experience", "enactive attainment", "physiological and affective state", and "verbal persuasion". Its effect was observed on the acquisition of skills immediately after the class. For further enhancement of assertive communication skills acquisition/ reinforcement, it was effective to achieve cognitive development and self-efficacy formation simultaneously.

As presented above, it is suggested that working on cognitive development regarding the four factors for formation of the skills in the basic life skills teaching/learning process and working on self-efficacy formation by incorporating the techniques that could contribute to enhancement of self-efficacy, namely, "vicarious experience", "enactive attainment", "physiological and affective state", and "verbal persuasion", in the respective processes of "Modeling", "Practice", and "Feedback" were effective in achieving the acquisition and reinforcement of assertive communication skills

It is hoped that intervention and surveillance will be continued using larger sample sizes to clarify whether this method might be applicable to the acquisition of other life skills.

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