Analyses of Nonverbal Behavior of Technology Teachers in the Classroom

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Abstract

It is important to clarify the features of nonverbal behavior in the classroom to analyze the depth of communication between teacher and student or student and student. This research classifies the features of body action of teacher and student in the technology classroom based on the classification of nonverbal behavior of Ekman and Freisen and discusses the role of the nonverbal behavior in the technology education classroom.
Keywords: technology education, nonverbal communication, technology teacher, student teacher

Introduction

Intentions between a teacher and student or a student and student are normally conveyed to each other by voice in the classroom. The analysis of a class, therefore, is performed focusing on analysis of language communication in many cases. It is known that personal communication is also performed through the nonverbal communication.

This research focuses on the nonverbal communication of technology education in the classroom, and considers the role of nonverbal behavior between teacher and student or student and student.

Nonverbal communication can roughly be divided into a nonverbal vocal message and a nonverbal non-vocal message. The nonverbal vocal message contains vocalics and the nonverbal non-vocal message contains proxemics, haptics, kinesics, oculesics, objectics, and chronemics.

Wiener and Mehrabian (1962) assert that the influence of message transmission in interpersonal communication holds the nonverbal domain of 93% and the language domain of 7%. The nonverbal and non-vocal domain occupies 58% such as an expression, gesture, dress and so on, and the nonverbal and vocal domain has 35% in the nonverbal domain.

Nonverbal communication has a message communicative function in accordance with a large explicit linguistic function, the function which actualizes an inner process and a meta-communication function. Body actions have the character which actualizes the meta-communication function and mental representation attracts attention, and reveals the hidden intention and truth which cannot read directly from a partner's “words.”

It is important to clarify the features of nonverbal behavior to analyize the communication between teacher and student or student and student in the classroom. “ Classroom Nonverbal Communication” described by Sean Neil (1991) is a well-known publication of the research on nonverbal communication in the classroom. Related books in this area are few.

This research classifies the features of body action of teacher or student in the technology classroom based on the classification of Ekman and Freisen (1969) on the nonverbal behavior. This study discusses the role of nonverbal behavior in the classroom of the technology education.

Method

Subjects:

•40 students of 7th grade in junior high school •One technology teacher in junior high school
•40 students of 9th grade in junior high school •One student teacher for technology class in junior high school

Categories for analyses:

This study classifies body action, which is the nonverbal non-vocal domain based on the taxonomy of Ekman and Freisen with additional items which are suggested by Efron (1941). The categories for classification are indicated in Table 1. One action has also been used for various meanings according to the situation, and classifies two or more items simultaneously.

Table 1 Classification of Body Expressions by Ekman and Freisen

(A) Emblems: Emblems can be translated into voice words and phrases, and are also called *representation or sign*.
(B) Illustrators: Illustrators emphasize and minute and supplement the contents, current, or connection of utterance.
(a) Ideograph: Action indicating thinking process
(b) Deictic movement: Behavior indicating objects
(c) Baton: Action which expresses or emphasizes a specific word
(d) Spatial movement: Action explaining a space relation
(e) Kinetograph: Action which describes a motion of people or animals
(f) Pictograph: Action which draws the target figure on space
(g) Underliner: Action which emphasizes a phrase, a paragraph, and a sentence
(h) Rhythmic: Action which describes the rhythm and earliness of an occurrence
(C) Affect display: Expression, gesture, and other emotional displays
(D) Regulators: Action which controls the transfer of the right of utterance or makes the flow of conversation smoothly
(E) Body manipulators: Action for adapting to a situation
(a) Body manipulator: Operation adding one's body
(b) Alter-adaptor: Action for adjusting personal relations
(c) Object-adaptor: Action which operates tool and machine

Results and Discussion

Nonverbal behavior of a student teacher

Table 2 describes partially the example of extraction of a student teacher's nonverbal action in a classroom of technology education for ninth grade students. The notation describes some body actions, when the teacher's nonverbal action occurs according to time progress, and it applies the item of the taxonomy of Ekman and Frisen.

Table 2 Extracts of Data for Analysis (Student Teacher Behavior)

Time	Teacher's Body Action	Classification
0:00	courtesy	Regulators
	laugh	Affect display
	making a hand gesture to wait	Illustrators
	directions	Illustrators
5:00	directions	Illustrators
	touch one's hair	Body manipulators

A student teacher's non-language action

“Indicate” occupies 38% of illustrators in Figure 1. "Emphasizing", which is an aggregate of 23% of "Emphasize speech" and 15% of "Emphasize words", also shows 38%. This sign shows a strong intention of a teacher such as indicating or telling the contents of lessons.

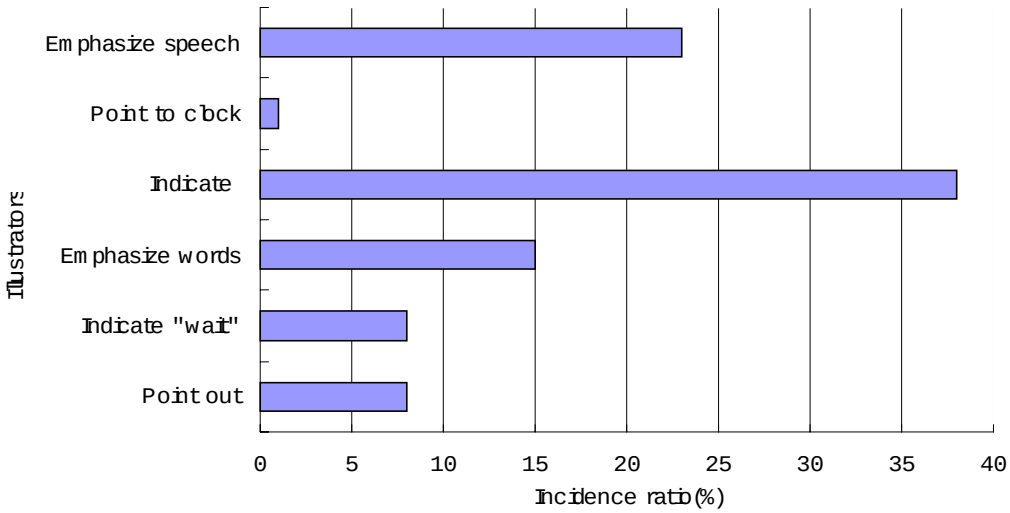

Figure 1 Illustrators

Figure 2 shows that both “Incline” of 22% and “look down” of 11% occupy 33% of the whole of regulators. This suggests the posture in which the teacher is going to listen a student's remark. It is about half (43% of all); moreover, to add with “Nod” of 7%, “Inaudible” of 4%, and “Turning round” of 4%. “Go around”, 7%, “Look over”, 7% occupies 14% of all. This shows a check of whether not the student listens to the teacher’s speech.

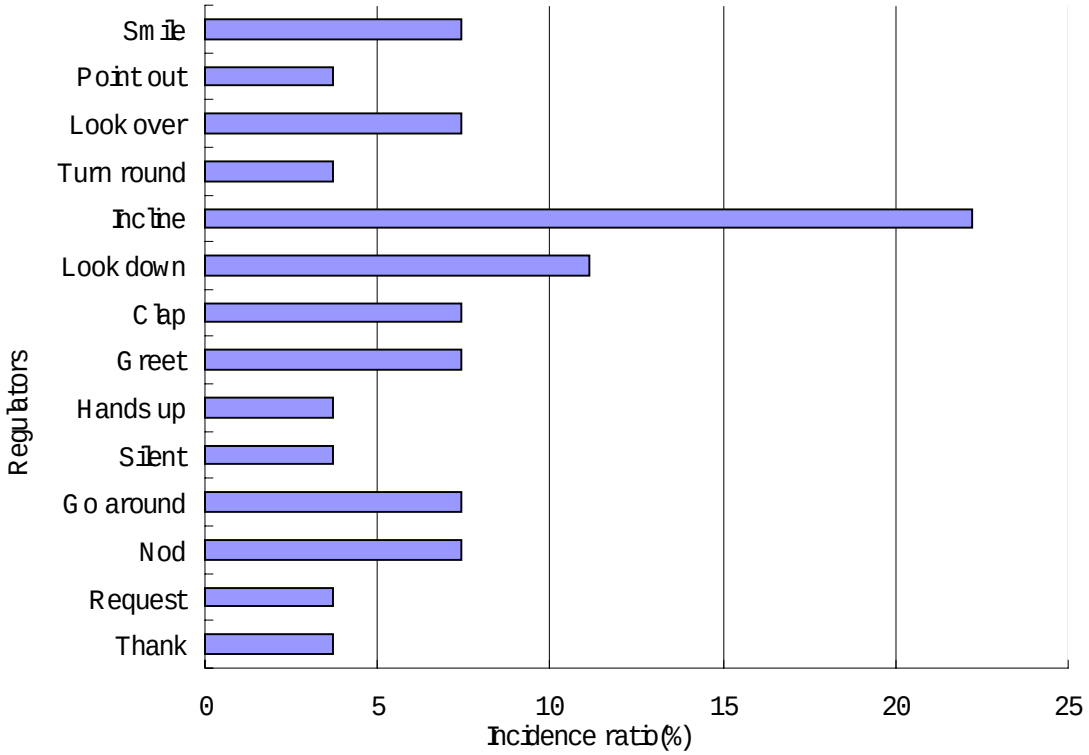

Figure 2 Regulators

"Hand on hair" showing 55 % occupies the upper half of the body manipulators in Figure 3. This is body operation for being adapted to a situation because of jarring on hair. There are few kinds of body manipulators such as "Fold hands", 27%, Hand chalk", 9% , and "Watch clock", 9% .This would indicate that the student's teacher had the very strong consciousness of receiving from the position of a student teacher.

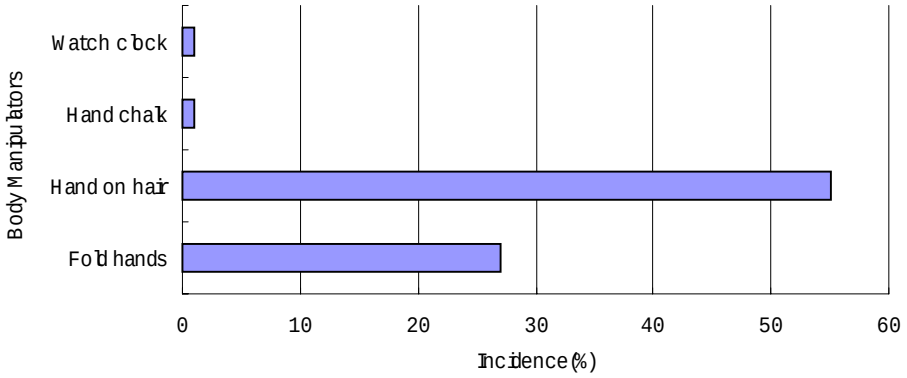

Figure 3 Body Manipulators

Technology teacher's non-language action

Figure 4 shows that "indicate" of 31%" and "indicate the paper" of 8% occupied 39% on the whole. This shows the manipulation of directions indicating the contents and flow of the lesson. The emphasis related illustrators also includes "emphasize speech", 15%, "emphasize", 12%, "emphasize words", 4%. These are the operations which emphasize a

phrase, a paragraph, and a sentence or express a specific word. Moreover both “Ideograph”, 4% and “Count numbers”, 4%, r, are the operations describing a thinking process.

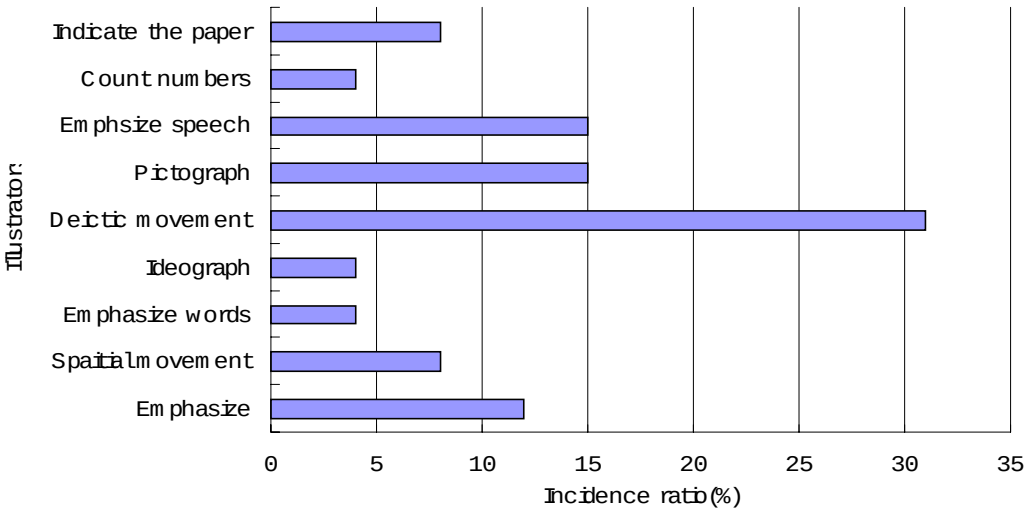

Figure 4 Illustrators

Figure 5 shows that 48% of the whole include four regulators such as “Go with”, 22%, “Stay down”, 11%, “Look around”, 11%, “Point out” of 4%, “Looking into” of 4%. Those show the check which the students listen the speech of the teacher or understand the content of the lesson.

The total of “Hands up”, 15%, “No”,7%, “Point to groups”, 7%, “Point out”, 4% is 33%. This shows the posture of a teacher as opposed to the student's announcement.

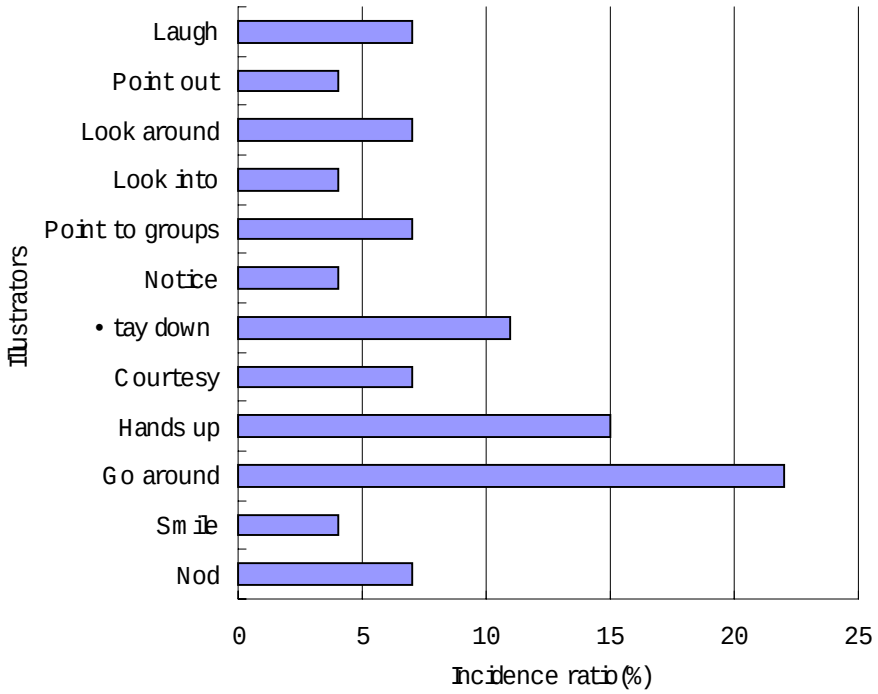

Figure 5 Illustrators

Figure 6 shows 33% of the total adding up to “Put hands on waist”, 18%, “Fold hands behind”, 6%, “Put hands on chest”, 6%. This shows peculiar operation without purpose. Moreover, the other body manipulators show body operation for adapting to the situation and managing emotion such as “Touching hair”, “ Touching a nose”, “Dusting off hand”, “Watching clock”, or “Hitching up trousers”.

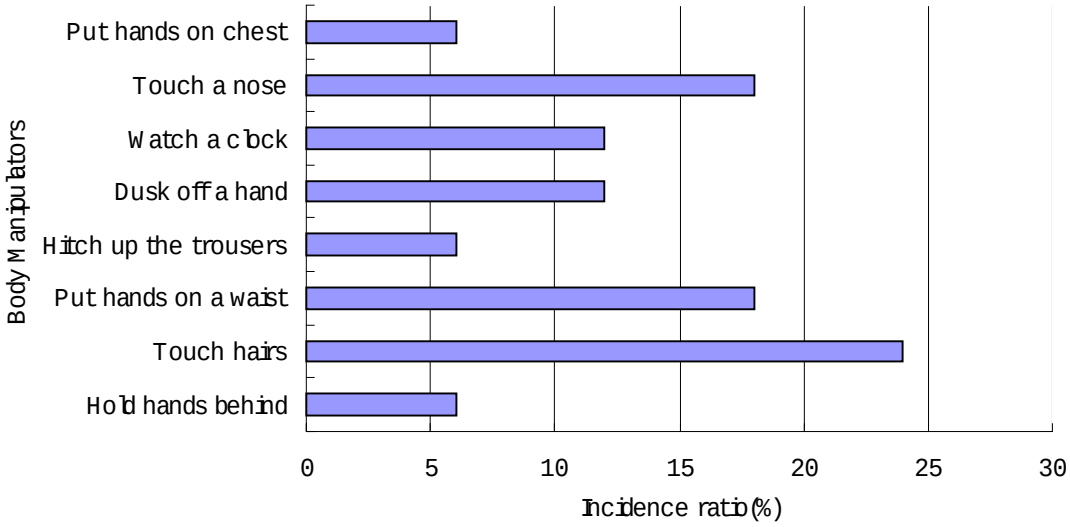

Figure 6 Body Manipulators

Comparison of nonverbal behavior between the skilled teacher and the student teacher

The comparison of body operation of both by the radar chart graph in Fig. 7 shows that most emotional displays are not functioning, because the body operation of the teacher shows only illustrators, regulators, and body manipulators. This figure shows that the teacher is not usually using the emotional display during the lesson. This result suggests that expression peculiar to Japanese people does not depend on "nonverbal communication."

The technology teacher shows a ratio of illustrators rather than that of regulators, but the student teacher shows the ratio of regulators rather than that of illustrators. The technology teacher performs the indication of information on the class as an initiative type lesson, on the other hand, the student teacher has many body actions of regulators, showing anxiety coming from concern about how to express the information.

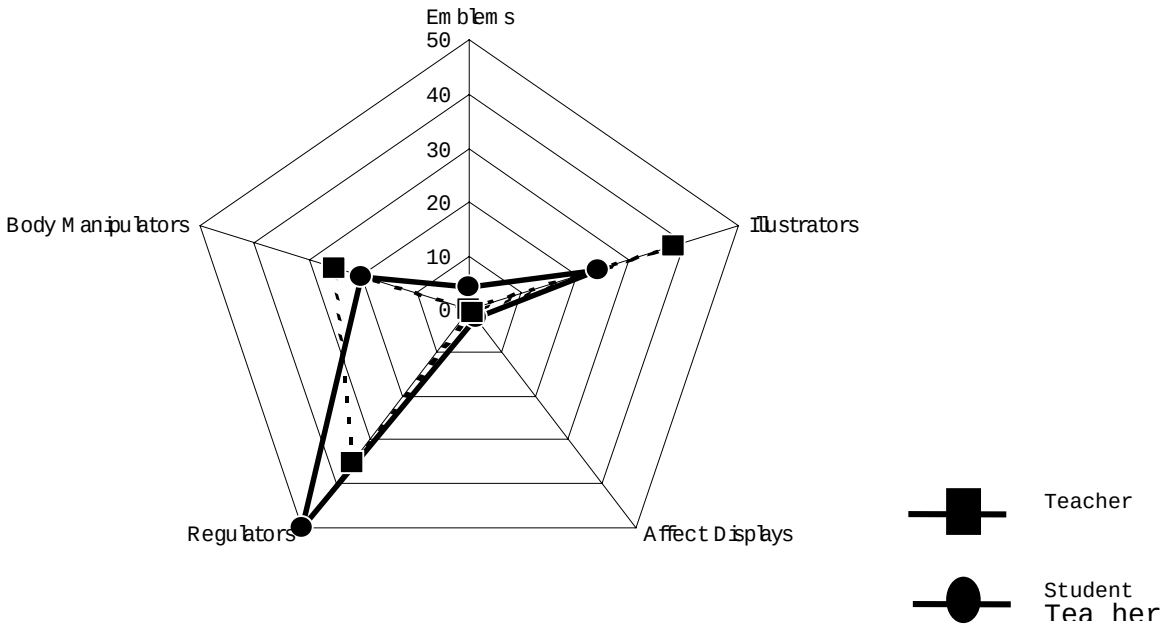

Figure 7 Body Expressions

Conclusion

This investigation observes the emotion display which the teacher controls. The Japanese teacher's emotional display has an ambiguous tendency, even though the emotion displayed tells more information about the addresser. One of the reasons may be reflected in the tendency to suppress the feeling at a public place in Japanese culture to the classroom communication.

It will be necessary to analyze the interaction of verbal communication and nonverbal communication from now on, and to develop the teacher educational program which focuses on the formation for communicative capability.

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