Discourse Analysis Method for Lesson Analysis

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Archaic Expression in Japan

"**Real opinion**" and "**Polite face**"

- Real opinion (hon-ne) : speaking based on what one really feels
- Polite face (tate-mae): things oneself in the other person's position

Case 1

Suppose someone comes into an excessively air-conditioned room and says, "It's really cool here, isn't it ?"

He or she may mean that it is comfortable as it is hot today or it may mean that it is too cool even though it is hot today.

Archaic Expression in Japan

Case 2

If a person who is usually cheerful and lively says on the phone to a friend

"I want to die..."

the friend may think

A) "Oh, I must go to help because my friend is in real trouble"

or

B) He or she may consider it to be just another joke

Communication

If every person spoke on one's true intention, our communication might become simpler.

But... practically, we sometimes **refrain from expressing** our real feelings in consideration of others or even **tell a lie** as necessary to maintain smooth relationships with others.

Uttered words don't necessarily reflect
what is really meant

Communication -Analysis-

Gumperz (1997)

Verbal or non-verbal actions are interpreted through **background clues** that hint at the meaning of words in a particular situation.

That is to say, if we can obtain non-verbal information that provides background clues from the literal record, it is helpful to understand the speaker's behavior.

Verbal and Non-verbal Elements

Erickson & Shultz (1982)

Our speech is made up of **intonation**, **dynamics**, **rhythm** and other factors.

Non-verbal information characterizes how people talk and provides "**background clues**" for listeners to understand the situation of speech and the thought of speakers.

This Study Purpose

This study proposes **an analysis method** **that focuses on speech rhythm**.

This method, specifically, takes into account **thoughts or attitudes** **that change depending on the situation** as well as manners of speech affected by such changes.

Speech rhythm, when referred to in this thesis, contains not only tempo in a general meaning but the results of interaction among speakers that are described as talkative/non-talkative or having a good/bad conversion mood.

Analysis Method

Phase 1 : **General Lesson Analysis**

1) **Transcription** of information relating to spoken contents, the situation and speaker's behavior observing voice and images

2) **Theorization** based on transcript and field notes made in step 1)

Phase 2 : **Analysis of Speech Rhythm**

3) **Measurement of speech rhythm** with linguistic counting method

4) **Assign musical notes** to spoken words

5) Preparation of a **matrix** with the number of beats based on sixteenth notes on the vertical axis and syllables in a speech on the horizontal axis, marking out applicable number of grid

6) **Identification of speech conditions**

Analysis Method : Phase 1

Phase 1 : General Lesson Analysis

1) Transcription of information relating to spoken contents, the situation and speaker's behavior observing voice and images

In analyzing lessons, data is collected mainly through observation and is written down as part of the lesson record.

Based on this written data, lessons are analyzed and academic theory will be developed.

		いの気持ちになるけど、授業だと、この人地面上？？のことやっているかな、すごいいろいろわかって、これからこれから、なんかもっと知りたいことある。
60	T安達	ああ、なるほどね。普段が話せないけど、授業という場があることによって、その人と話すとかこどができることが、そういうことみんな思ったことある？思う？うん。なるほどね。いろいろたくして、増えますけど、やっぱ、地域のためとか、あと、人のためとか、自分のため？というふうに何かのためにやってるんだという意見は多かったなぁというふうにと思います。もう少しちょっと詳しく聞いてみたいなと思うんだけど、たとえば、自分のためになるというのは具体的にどういうところが自分のためになったと思うだろう？どうかな？自分のためになるというのは、なぜ？どういうところか自分のためになったのかな？
61	正成	自分のためになるとは、例えばえっと、つばめを保護するとかだったら、授業じゃないけど、そういうやつだったら、自分のためっていうのは、つばめのためだけど、自分はえっと、動物の保護することの難しいどそういうことがわかったりするから、だからそういうことができる。
62	T安達	つばめを保護することが
63	正成	保護することは、つばめだけでなくて、ごみ拾いとかでも、自分のためになる、そういうことが分かったりするから。
64	T安達	ためになったと。
65	有希	似ています。
66	T安達	じゃ、ゆうき君どうですか？
67	有希	えーっと、まぁ、2年生の時、死んでしまって命の大切さを知ることが出来る。やっぱ、命の大切さを知っていなければ、これから愛鳥活動とかそういうのをやっていかないと。だから、僕が一番感じたのは、やっぱつらいけど、死んでやっぱ悲しいけど、命の大切さ。そこで知ることが出来る。
68	T安達	昨日、みんな思い出してくれたけど。色々、うこっけいを飼ったけど亡くなってしまったとか、色々したんだよね、体験してきたんだよね、ねるほどね。うん、そうか。他に自分のためになった。こういう経験あるよって人いませんか？ユリちゃんとかどうですか、自分のためになったっなぁって、地域学習は自分のためにやっているんだなぁ、と思った瞬間とか。さおりちゃん、どうですか？
69	さおり	お年寄りの人とかと仲良くなった。それで仲良くなって、昔のことを知る。
70	T安達	昔のことを知る？
71	さおり	なんか、聞いて、お年寄りの人の仲良くなれる。
72	祥	ちょっと似ています。
73	T安達	さっき、りょうじ君も言ってくれたよね。ここで。お年寄りの人と言葉を交わせる、仲良くなれる。色んな人と出会えるんだよね、地域学習は。しょう君、どうですか。
74	祥	似てるんですけど、さっきの愛鳥活動とかで、地域学習をすると、色んな人と触れ合うことで役立つ自分も成長できるんじゃないかと思います。
75	T安達	自分も成長できる。人と出会うことによって。例えば、どんなことで成長する？
76	祥	例えば、昔の話をしてもらったり、人との関わり方っていうか、最初あまり話せなかったとかというのが、話せるようになる。
77	T安達	人との接し方とか、そういうのが強くできるじゃない？ということか。なるほどね。じゃあ、僚二君。
78	僚二	やっぱり、さっき、言ったんだけど、やっぱり。お年今と昔はどう違うのかとか、なんか遊び方とか、こういう遊びがあるとか、僕たちが知らない遊びがあって、そういうことを話したりして触れ合えるから
79	T安達	色んなことを教えてもらえるんだね、お年寄りから。じゃ、ゆうき君。
80	有希	僕も、お年寄りの人と結構仲良くなれたし、前のみんなでお茶を楽しむ会という行事で。野球が好きなんだけど、僕は。野球のことを聞いたら、昔は戦争中でポジションとかもファーストとかいうんだけど、外国の言葉をつかっちゃいけないから、そっから一塁とか二塁とか生まれたとか、そういう話を聞いたりしたりして、今と昔は、どう違うのか、昔の遊びはどうだったかとか、やっぱ今と昔を比べて、接し方も結構・・・。
81	T安達	その人は、教えてもらいにいったの？
82	有希	教えにもらいにいったというのか、本当は感謝を伝える会だったんだけど、お話をしようということで。昔のことを聞いてみたら。
83	T安達	あーそうなんだ。本当の目的は違うけど。
84	有希	でもなんか、年寄りの人とか話すとかは、宮崎は年寄りの人が結構多いもんで、宮崎しか味わえない、味わえないことだと思うから。
85	T安達	なるほどね、そうっか、そっか。他に？イズミちゃん
86	いずみ	探鳥会で菅沼さんっていう方が教えにというか、講師さんとして毎年きていたんだけど亡くなられて、今は奥さんがきているんだけど。結構知り合いになってから、よく学園の畑に野菜の苗とかを植えていってくれたりして、けっこう知り合いっていうか知っている人になったから、野菜が元気ないんですけどどうしたらいいんですかとか、そういう、直接聞けるような詳しい人だから、地域学習みたいなものをやって色んな人と会ったり、知り合いになっていったりできるから、そういう分からないことをどんどん聞けるようになった。
87	T安達	探鳥会で出会ったんだけど、その他のことでもつながりがでてきた。菅沼さんとか、色んな人と出

Video

Picture

Transcription of Lesson Record

Analysis Method : Phase 1

Phase 1 : General Lesson Analysis

2) Theorizing based on transcript and field notes made in step 1)

Lesson analysis has a large similarity and convertibility with **Qualitative Research**.

Especially applicable for lesson analysis is the **grounded theory** that

- makes interpretation based on data,
- builds up analytical indexes (coding)
- and constantly compares and reviews these.

Analysis Method : Phase 2

Identify the condition of each division

Speech conditions mean the manner of speech by a speaker.

Speech conditions, which are affected by **a speaker's thoughts**, **the surrounding environment/ atmosphere** or **other situations**, are considered "**background clues**" in this thesis.

Analysis Method : Phase 2

Phase 2 : Analysis of Speech Rhythm

3)Measurement of speech rhythm with linguistic counting
method

Erickson & Shultz (1982)

Verbal/non-verbal behavior in conversation can be divided into
successive bars like a piece of music and proceeds **to accurate
rhythm measurable by a metronome**.

Based on this theory, speech rhythm is measured using the
method proposed by a linguist. To be more precise, average
beats will be taken by **tapping the desk** or something while
listening to the recorded speech. After repeating this several
times and comparing the results, average rhythmic beats will be
determined.

Analysis Method : Phase 2

Phase 2 : Analysis of Speech Rhythm

4)Assign musical notes to spoken words

Based on the rhythmic beats determined in Step 3), **express the speech with musical notes**.

Assign one note to each syllable in principle.

Japanese has prolonged sounds, doubled consonants, nasal consonants, and palatalized consonants.

Analysis Method : Phase 2

Phase 2 : Analysis of Speech Rhythm

4)Assign musical notes to spoken words

Prolonged sounds

し よ う
shi yo

だ か ら さ あ
da ka ra sa a

Doubled consonants

い っ た
i ta

Nasal consonants

か ん だ
ka n da

かん だ
kan da

Palatalized consonants

さ ぎょ う
sa gyo u

さ ぎょう
sa gyo −

Assign one note to each syllable in principle

Analysis Method : Phase 2

Phase 2 : Analysis of Speech Rhythm

5) Preparation of a matrix with the number of beats based on sixteenth notes on the vertical axis and syllables in a speech on the horizontal axis, marking out applicable number of grid
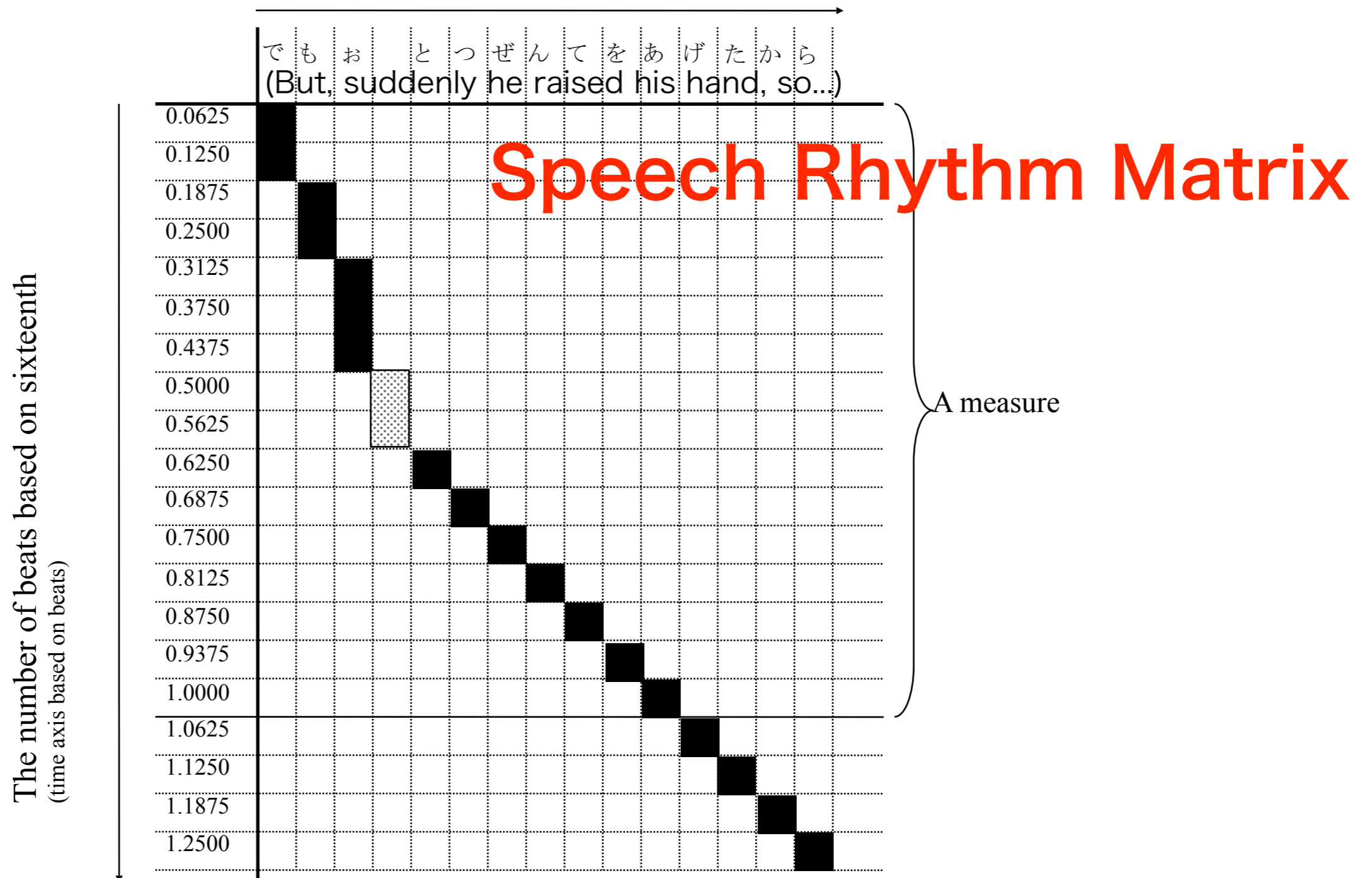
The matrix visualizes the speech rhythm expressed with musical notes in Step 4).

This matrix is called **Speech Rhythm Matrix**.

Analysis Method : Phase 2

Phase 2 : Analysis of Speech Rhythm

Syllables in a speech
(the words in order : time axis based on the progress of speech)

でもぉ　とつぜんてをあげたから
(But, suddenly he raised his hand, so...)

Speech Rhythm Matrix

The number of beats based on sixteenth
(time axis based on beats)

A measure

0.0625
0.1250
0.1875
0.2500
0.3125
0.3750
0.4375
0.5000
0.5625
0.6250
0.6875
0.7500
0.8125
0.8750
0.9375
1.0000
1.0625
1.1250
1.1875
1.2500

Analysis Method : Phase 2

Phase 2 : Analysis of Speech Rhythm

6)Identification of speech conditions

In this step, we divide the matrix prepared in Step 5) using the criteria for breaking down and identify the speech conditions.

Analysis Method : Phase 2
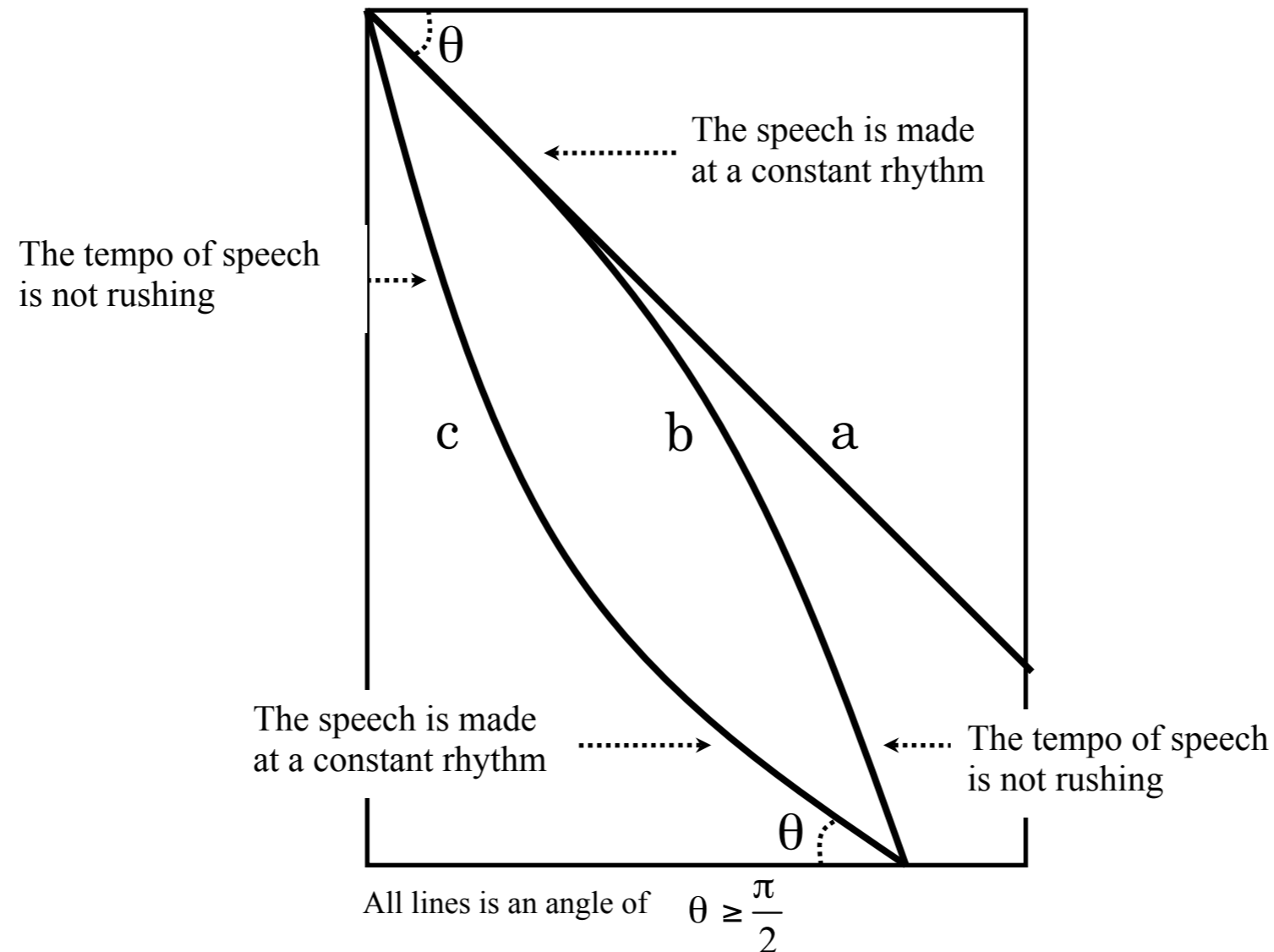
Criteria for breaking down
the speech rhythm matrix

The matrix should be broken down considering the following:

A) **Context of a speech** (horizontal axis of matrix)

B) Point where **manner of speech changes** as well as the context

C) **Change in context or speaking manner**, paying attention to a rather **long blank** (breath or silence)

D) **Change in context or speaking manner**, paying attention to **a prolonged sound** (where word ending is prolonged)

Analysis Method : Phase 2

Identify the condition of each division

A model graph shows three tendencies that provide background clues.

θ

The speech is made
at a constant rhythm

The tempo of speech
is not rushing

c   b   a

The speech is made
at a constant rhythm

The tempo of speech
is not rushing

θ

All lines is an angle of $\theta \geq \dfrac{\pi}{2}$

- Line "a" shows that speech is made at **a constant rhythm**
- Curved line "b" indicates that **speech speed goes down** at a certain point
- Curved line "c" shows that **speech tempo gets faster** at a certain point

Analysis Method : Phase 2

Identify the condition of each division
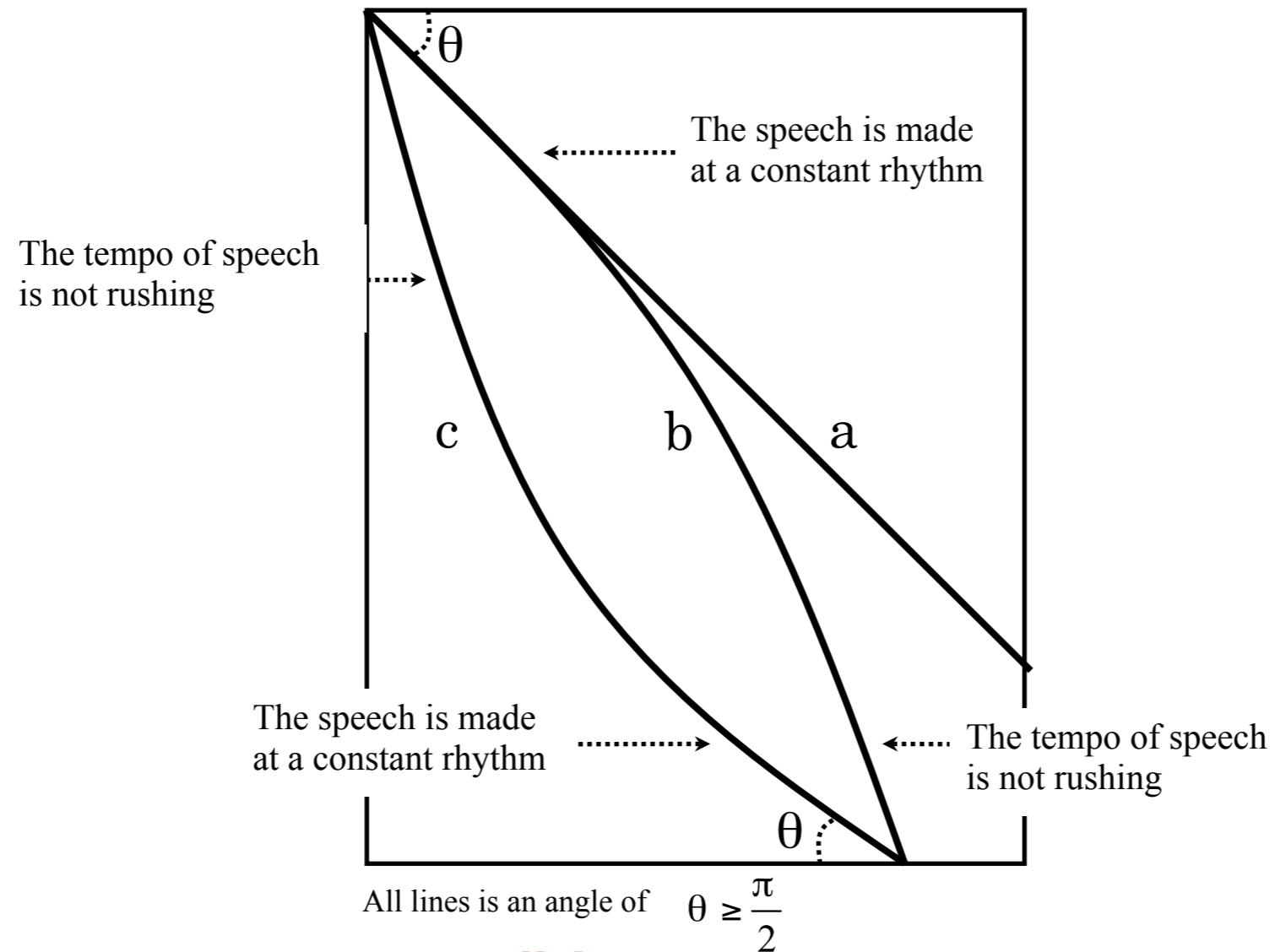
- Line "a" is "constant rate condition"
- Curved line "b" is "decelerating condition"
- Curved line "c" is "accelerating condition"

about the Primary School

The Numbers of Pupils :
about 30

A Combined Class of more
than one grade
(G1-G2, G3-G4, G5-G6)

The Numbers of Teachers :
6, school nurse and EAT

about the Primary School

The primary school locate at Aichi prefecture.

Aichi

about the Primary School

The primary school locate at Aichi prefecture.

Nagoya University

2.5 hours by car
(65km)

The Primary School

Case for Research

A class for **6th graders** was chosen as a research case focusing on a statement made by one of the students (hereinafter referred to as "**I**")

-the scene-

"I" recalls what has been learned at the class named "Regional Learning for 6 Years" that undergraduate students took part in for field study.

On that day, the class talked about litter collection, rice planting, animal protection and other past activities.

The student, who had kept almost silent, abruptly made a statement after another student referred to talking about the elderly person.
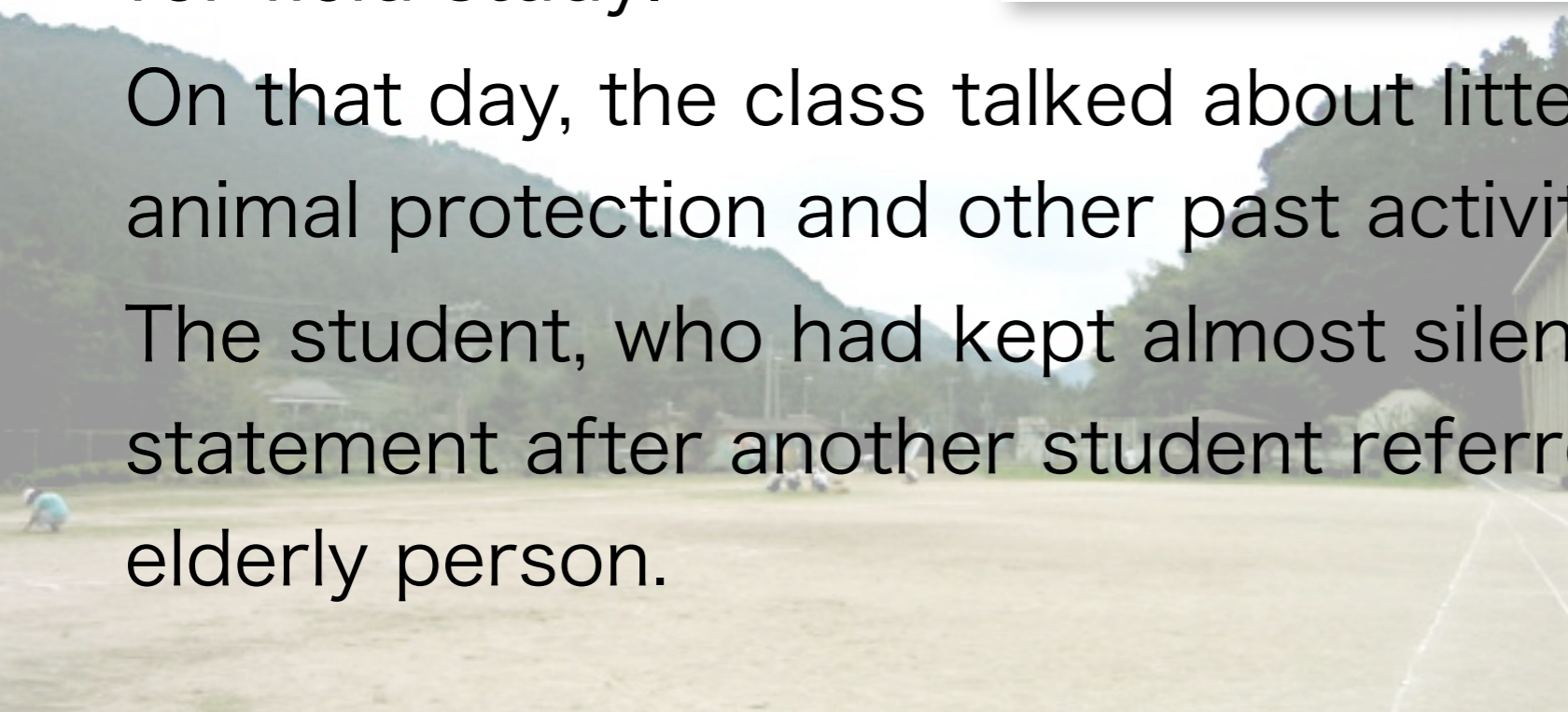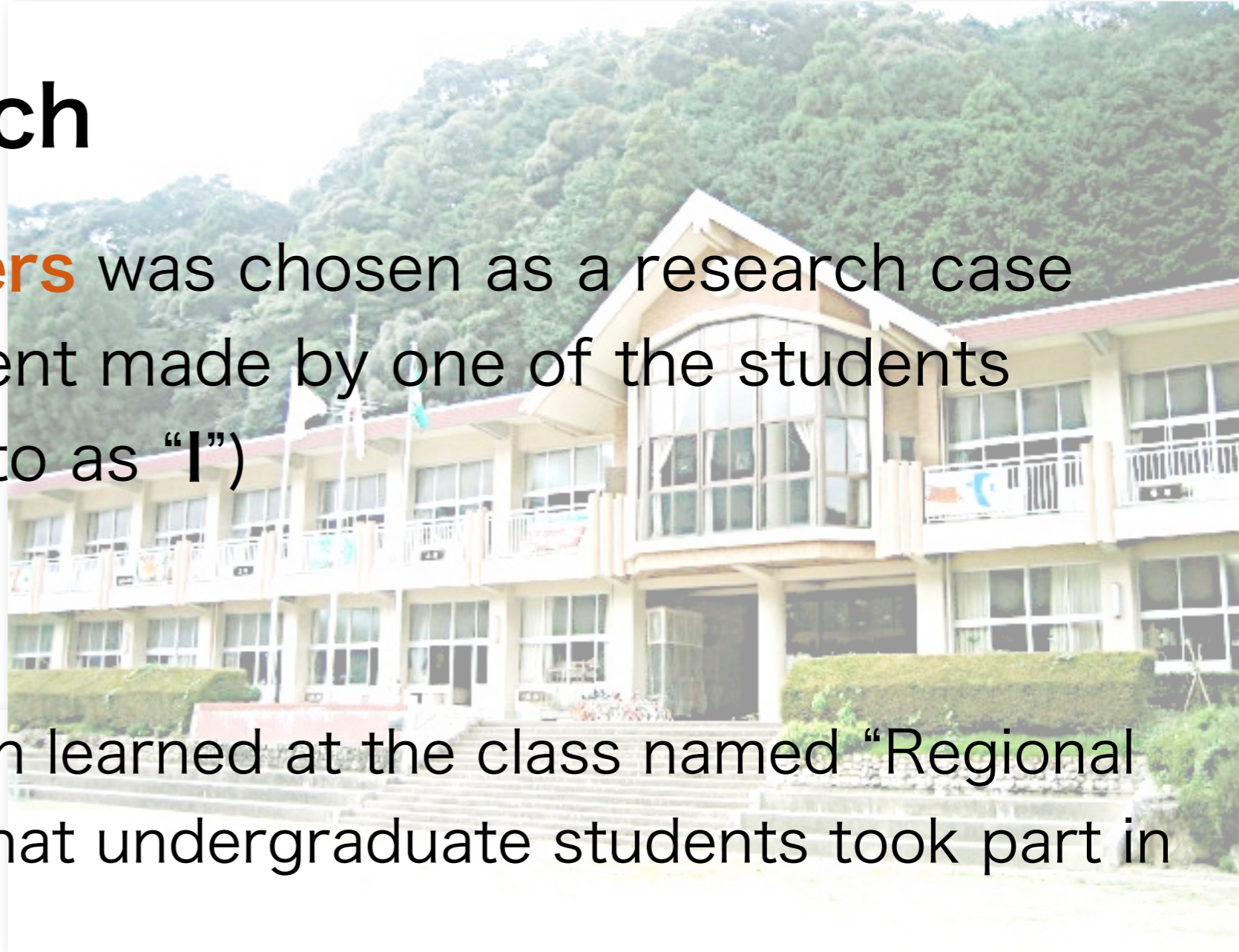
Characteristic of "I"

usually

    She is so cheerful as to raising her hand and stating her opinions, speaking or cling to me.

    We can see her taking the lead.

unusually -this class-

    She kept silence for 22 minutes.

Case for Research

"Umm, at the event like bird watching or something, um (↑) a person ···named Mr. Suganuma (B) umm, ···used to come (B) to teach (B) (↓) as an instructor every year···(↓) but, umm, he passed away and his wife comes instead now, and (B) (↓) after we made her acquaintance, she often plants seedlings or other stuff in our vegetable garden (B) kindly enough (→) and, um (B) we have become, so to speak, friends (B) (↓) now that we know each other well, I sometimes ask her about fertilizer when the vegetables look faded (B) or such ···(B) (→) ··· thing ··· (B) directly .., (B) as she is familiar with those things. I mean (B) through this region learning, I have met and got to know (B) (↓) various people and I came to be able to ask them what I want to know. (→) "

Case for Research

I coded based on the situation or contents

[22-minute silence] [Role of Mr. S at bird watching]

[Relation between this child and Mr. S] [Death of Mr. S]

[What Mr. S left behind] [Relationship ended and newly started] [Unexpected human relationship] [From bird to vegetable] [Shift (expansion) of medium for relationship]

[Beginning of new relationship]

and based on the rhythm matrix

["I" Recalling] [Selection of the right words] [Recalled things] [Statement of past] [At a loss for words] [Haste for conclusion] [Sorting out of contents] [Confirmed emotion]

Case for Research

Division 1

"Umm, at the event like bird watching or something, um, a person named Mr. Suganuma, umm, used to come to teach as an instructor every year…"

This is a part 'I' broke her silence of 22 minutes and began to talk about the bird watching event actively under an accelerating condition. She talks about Mr. Suganuma who used to come to his primary school until 4 years ago, slowly, inserting intervals to try to recall the past. We can imagine that she is searching for the right words to describe Mr. Suganuma such as 'a person who came to teach' or 'instructor.'

Case for Research

Division 1

accelerating condition
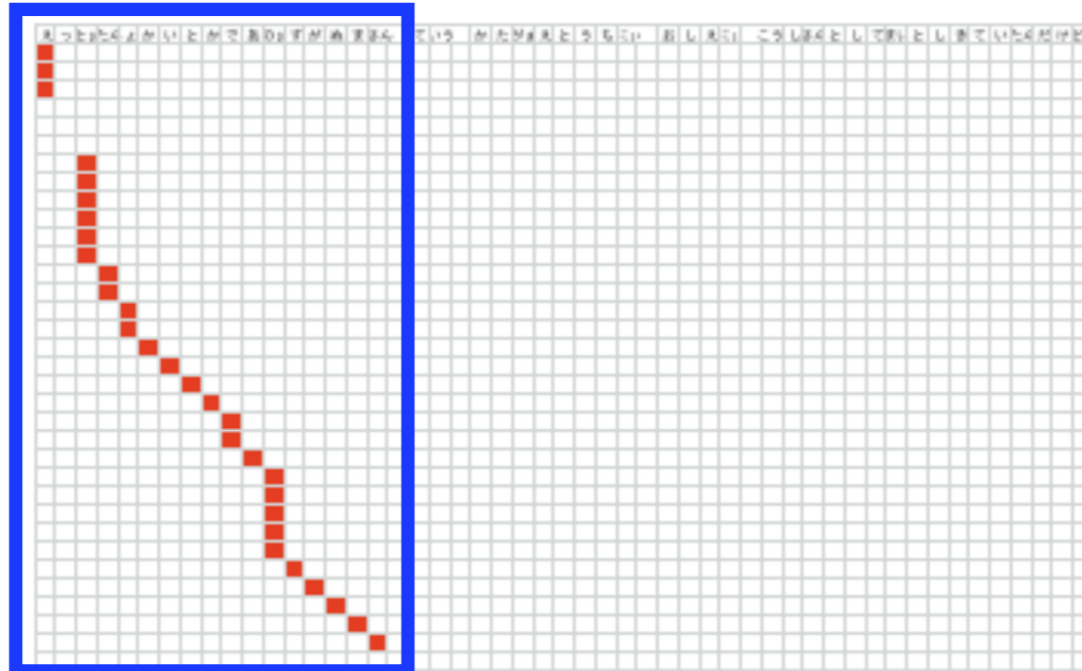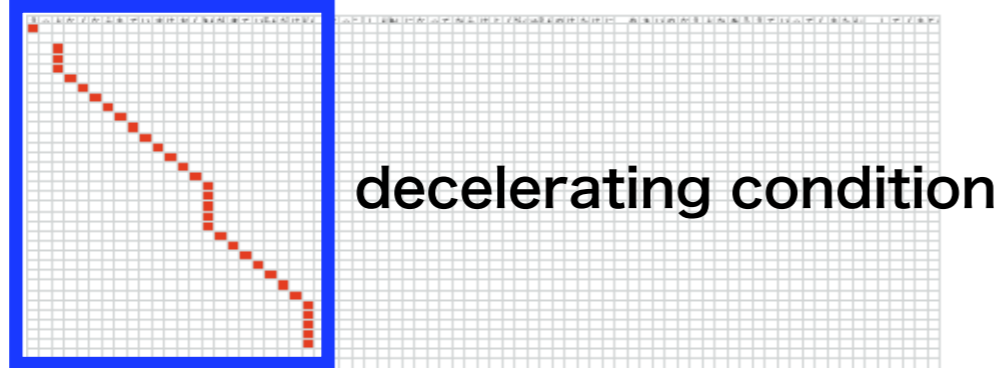
decelerating condition
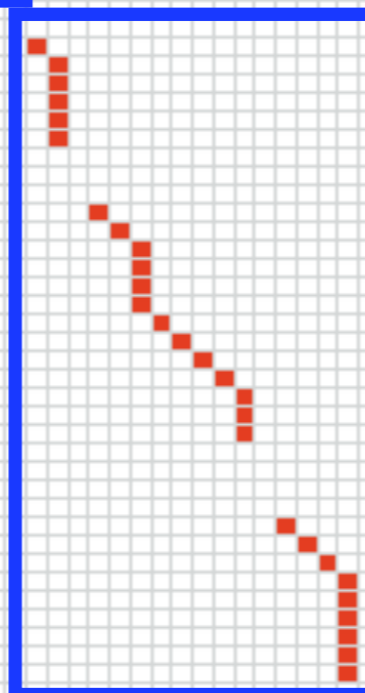
decelerating condition
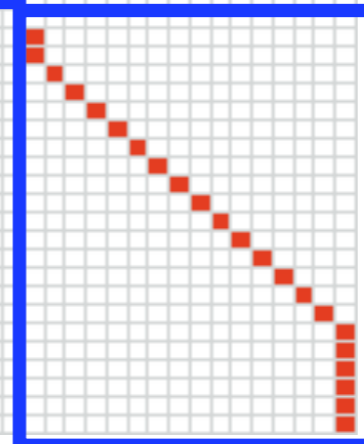
Case for Research

Division 2

"but, umm, he passed away and his wife comes instead now, and after we made her acquaintance, she often plants seedlings or other stuff in our vegetable garden, kindly enough, and, um, we have become, so to speak, friends. Now that we know each other well, I sometimes ask her about fertilizer when the vegetables look faded or such…"
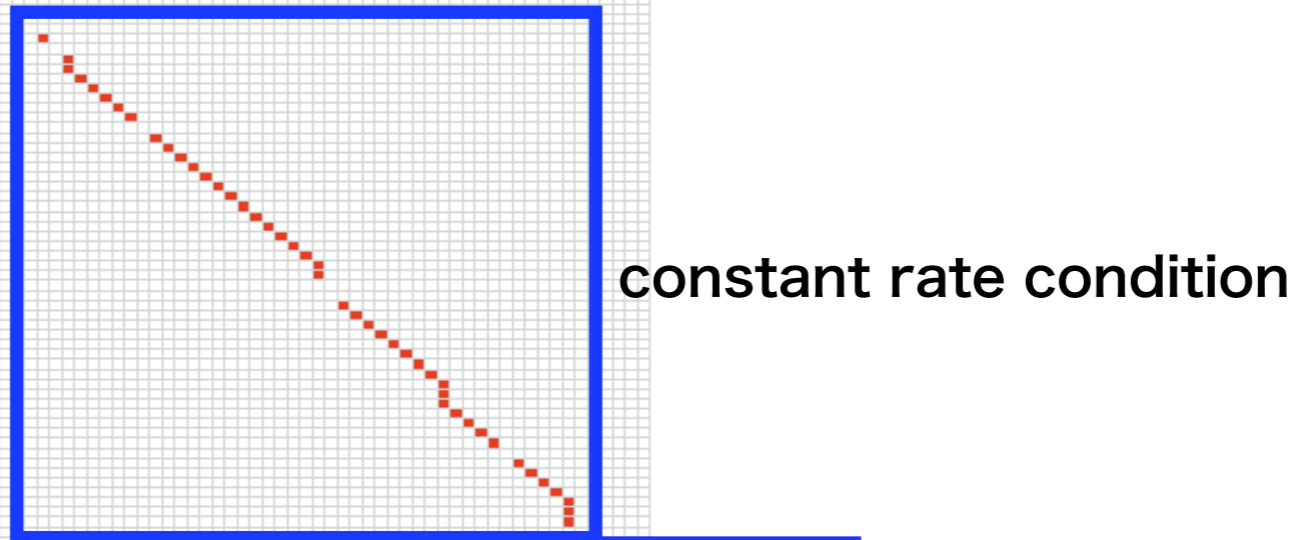
Case for Research

Division 2

decelerating condition

constant rate condition

concerns of "I"
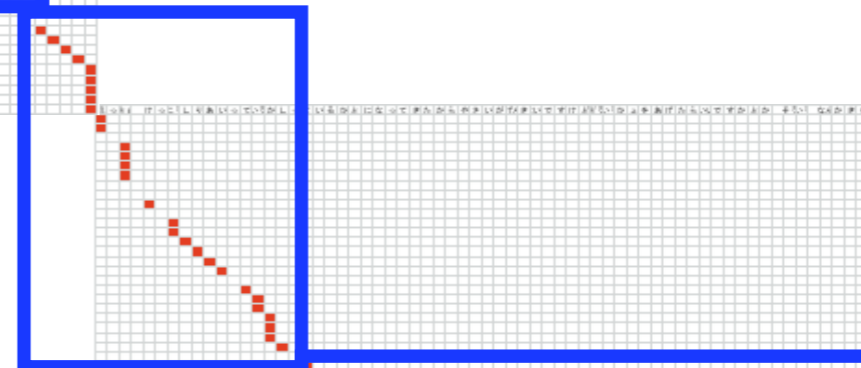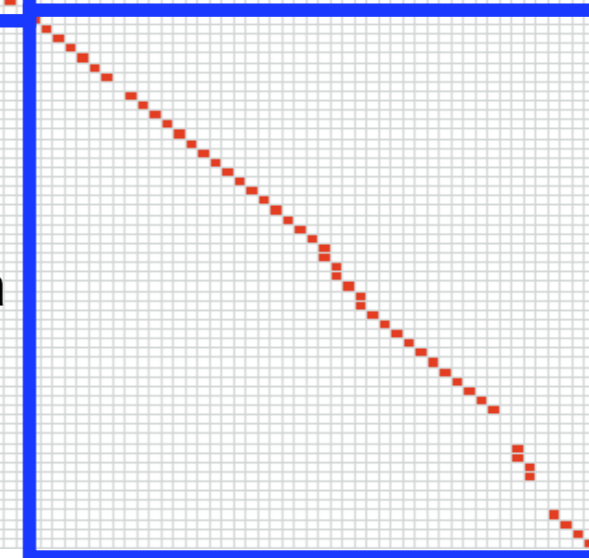
Birds
↓
the elderly person
↓
his wife
↓
vegetables

decelerating condition
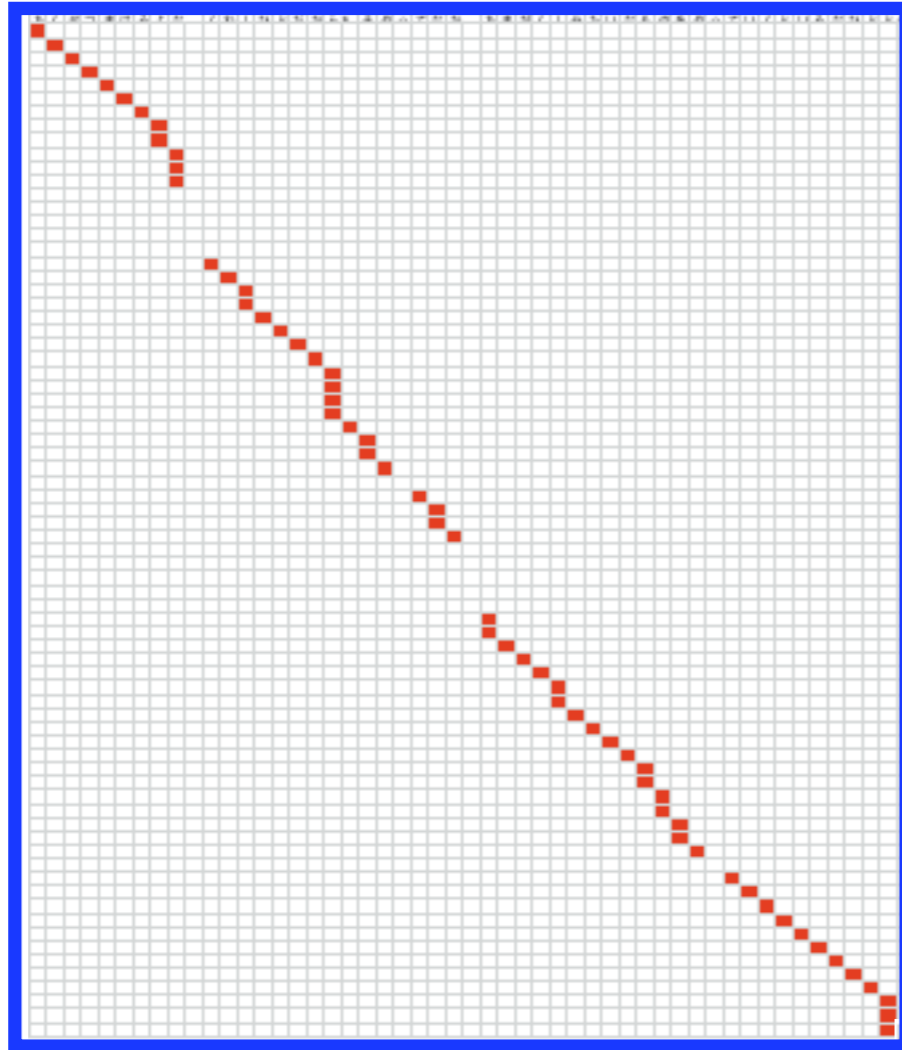
constant rate condition

Case for Research

Division 3

".... thing directly, as she is familiar with those things. I mean, through this region learning, I have met and got to know various people and I came to be able to ask them what I want to know."
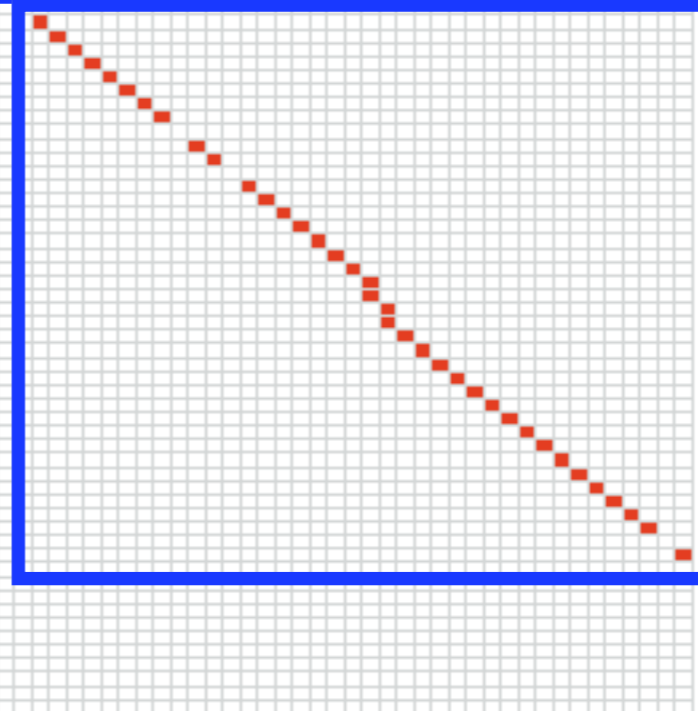
Case for Research

Division 3

decelerating condition

constant rate condition

Application with the exception of Lesson

<for Researchers>

Life History Interview

    whether the interviewee thinks happiness or not

    for his/her life.

<for Teachers or Psychotherapists>

Counseling for people (in the school)

    whether children have or not some worry for

    something.

<for Contributers to Social>

Judging the Testimony by a criminal

    whether a criminal tell or not an untruth.

Situations and Conditions

<Constant Rate Condltion>

being confidence, being able to arrange in the mind, talking with confidence or conclusion...

<Decelerating Condition>

uneasiness, confusion, uncertainty, hesitation, confirmation, thinking, recalling...

<Accelerating Condition>

question betrayed his/her expectation, emerging better answer, going ahead utterance than think...

<Blank>

breathing, recalling, thinking...

Compare C.A. with Speech Rhythm Analysis

	C. A.	S. R. A.
purpose or target	• to find and analyze social act, interactive action / conversation	• to explore background clues • to support coding
view point	• turn of speech • timing	• the manner of speech • speech rhythm • 3 types conditions
procedure	• transcribing the record • adding the symbol • interpretation	• the data collection • tapping the desk with listening voice or movie • to make the graph • to identify the condition
output	• only characters	• visualization(graph) • characters(cords, conception)

Conclusions

Actual lessons are full of information

    ex.) children's emotions or deep feelings

Being lost in the process of reducing them into a lesson record

-Generally, Lesson Analysis-

Attempting

    to identify lesson structure or class order

    to understand what children think

through transcribing voice or image data as lesson records

Conclusions

But this includes nonfinite procedures that require a lot of experience and skill,

We find it difficult to clarify a speaker's thought or attitude

-The Proposed Method-

    aiming to find background clues from speech rhythm,

    being able to help in overcoming such issues

This method is not only **the contents analysis** but also **the situation analysis**.

Thank you !