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**Group Dynamic Assessment and the Effect on Acquisition of Prepositions:
Different Perspectives of Successful and Unsuccessful Learners**

Research Questions

1. Will G-DA promote the learning of prepositions in a Japanese English classroom?
2. Will G-DA be as or more effective than Non-DA (N-DA) intervention?
3. Will G-DA really promote development for everyone in the class?
4. What are the characteristics of learners who benefit more/less from G-DA?

Participants of the interview

Interviewee (pseudonym)	Class	Age	GTEC score	First trimester grade	Pretest	Post-test	Gain
Successful Learners							
Oh	A	15	393	70.5	9	15	6
Taro	A	15	430	92.2	12	17	5
Touri	A	15	613	85	14	19	5
Ken	A	15	406	67.1	12	17	5
Glove	A	15	425	78.2	8	17	9
Koji	B	15	480	78.9	12	23	11
Kenta	B	16	471	82.3	10	17	7
Satoshi	B	16	518	79.5	9	21	12
Tanaka	B	15	409	72.8	16	23	7
	<i>M</i>	15.2	460.6	78.5	11.3	18.8	7.4
Unsuccessful Learners							
Isaka	A	15	466	78.4	15	14	-1
Kou	A	15	443	81.5	15	14	-1
Matsuoka	B	16	440	81.3	21	19	-2
Ohtani	B	16	397	79.3	16	13	-3
	<i>M</i>	15.5	436.5	80.1	16.8	15	-1.75

Interview Questions

Personal Info

1. 偽名は何がいいか。
2. 簡単なプロフィールを、年、英語勉強の経験（年数）
3. 普段学校以外で英語を勉強しているか（塾など）。
4. 英語は得意科目か。

Classes in General

5. 普段、他の生徒の発言を聞いているか。（英語の授業・それ以外）
6. 他の生徒と先生のやりとりが役に立つことがあるか。（英語の授業・それ以外）
7. クラスの前で発表などする場合、間違えることは気にするか。
8. 答えがわかってないと発表したくないか。
9. 他の授業では積極的に発言するか。
10. 授業を受けていて、クラスが一つにまとまっているなど感じたことはあるか。それはどういうときか。
11. そのような場合、先生と生徒のやりとりはいつもと違ったふうを感じるか。
12. 普段の授業で先生とのやり取りはどれくらい重要か。自分の、他人の。
13. 講義される授業と、生徒の発言が多い授業ではどのような違いを感じるか。
14. 普段の授業でどのように口頭で訂正されることが多いか。
15. 直接訂正された内容を覚えているか。
16. 他人が訂正されたのはどれくらい覚えているか。それはどういう場合か。
17. どのように訂正されると、理解しやすいと思うか。

About the Treatment

18. 絵自体の説明は難しかったか。
19. トリートメントクラス（ビデオみせながら）について何を覚えているか。
20. いつもと違うように感じたか。二回やったが、そこに何か違いはあったか。
21. 訂正の仕方が、段階を踏むようにやったのだが、わかったか。
22. 実際に前に出て絵を説明したとき、何を考えていたか。
23. or 座って聞いている時はどれくらい注意して聞いていたか。
24. 前でのやりとりを聞いて、どのようなことを思ったか。
25. 待っている間はどのように用意をしていたか。

Prepositions

26. 文法事項として、前置詞は簡単か難しいか。どこが。
27. 簡単な前置詞、難しい前置詞はあるか（使用した10個を見ながら）。
28. on, through がそれぞれ平均として上がったが、何か理由はあるか。
29. 反対に above は二回目に点数が下がったのがあるが、何か気がつくか。
30. （点数が上がった生徒）なんで上がったと思うか。

- ▶ For citation:
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Group Dynamic Assessment and the Effect on Acquisition of Prepositions: Different Perspectives of Successful and Unsuccessful Learners

The 6th FL Teaching and Research Mini-Conference in Matsuyama
9/25/2011

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Sophia University

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1 Background

- ▶ Experience as an English teacher
 - What can teachers do to help?
 - How can teachers make students notice?
 - Are the teachers' intuitions on feedback justified?

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2 Literature Review

- ▶ 2.1 Noticing
- ▶ 2.2 Basics about DA
- ▶ 2.3 Theory underlying DA
- ▶ 2.4 Types of DA
- ▶ 2.5 Group DA

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2.1 Noticing

- ▶ Noticing Hypothesis – “input does not become intake for language learning unless it is noticed, that is, consciously registered”
(Schmidt, 2010, p. 1)

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2.1 Noticing

- ▶ “What is noticed ... is not the raw data of the input ..., but input as interpreted by existing Schemata”
(Schmidt, 2001, p. 31)
- > individual differences???

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2.1.1 Individual Difference

- ▶ Aptitude? Julie (Ioap et al, 1994)
vs Wes (Schmidt, 1983)
- ▶ Motivation?
 - Affective Filter (Krashen, 1985)
 - Motivated = Active (Gardner, 1988)
- ▶ Working Memory? (Mackey et al, 2002)

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2.2 Basics about DA

- ▶ In main stream SLA interaction is seen as...

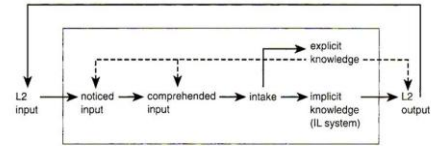


Figure 9.1: A framework for investigating L2 acquisition

From Ellis, R. (1994, p. 349)

Separation of autonomous learner and social environment(input)

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2.2 Basics about DA

- ▶ Sociocultural Theory (SCT)
“SCT is grounded in a perspective that does not separate the individual from the social ... the individual emerges from social interaction”
(Lantolf and Thorne, 2007, p. 213)

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2.2 Basics about DA

- input ≠ something plugged into the head
= meditational artifacts that reformulates the human mental function
artifacts(i.e., language) comes between objective (external) and subjective (internal) world

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2.2 Basics about DA

- ▶ first coined by Luria (1961)
→ comparing **statistical** and **dynamic** approach to assessment

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2.2 Basics about DA

- ▶ statistical = measuring what they can do individually
“important to ‘neutralize’ the impact of anything (variables, factors)”
Swain, Kinnear, and Steinman (2010, p. 124)

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2.2 Basics about DA

- ▶ dynamic = **see what they can do with assistance**

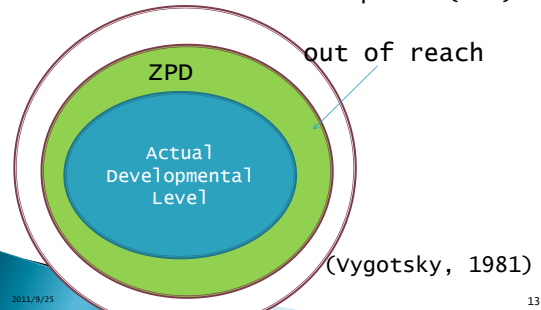
“integrates assessment and instruction”
(Lantolf & Poehner, 2004, p. 50)

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2.3 Theory Underlying DA


- ▶ Zone of Proximal Development (ZPD)



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2.4 Theory Underlying DA

- ▶ ZPD=indicates **potential** development
- ▶ ex. for a 5-year old...
- ▶ actual level = $2 + 2 + 2 = 6$
- ▶ ZPD = $2 \times 3 = ???$ times 3 means... 
- ▶ out of reach = $2 / 3 = ???$ /3 means...

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2.5 Types of DA

- ▶ Interactionist DA
 - free-lance mediation
 - more qualitative approach
- ▶ Interventionist DA
 - **mediation predetermined** (implicit→explicit)
 - **more quantitative approach**

(Lantolf & Thorne, 2006; Lantolf, 2009; Poehner, 2007)

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2.6 Group DA

- ▶ one-on-one interaction of DA is an **unrealistic model** for classroom teachers
 - ▶ (Poehner, 2009)

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2.6 Group DA

- ▶ need to consider the **groups' ZPD**
 - ↓
 - ▶ “actively engage the entire group in G-DA interactions”
 - ▶ (Poehner, 2009, p. 477)
 - ▶ How???

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2.6 Group DA

- ▶ By distinguishing **primary** and **secondary** interactants
- ▶ primary – teacher and student who is actually interacting
- ▶ secondary – students who are watching the interaction

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2.6 Group DA

- ▶ Muranoi, 2000; Ohta, 2000 showed **benefits for the secondary interactants**

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2.6 Group DA

- ▶ Two types of G-DA
 - concurrent G-DA
little or no extended 1-1 interaction
 - **cumulative G-DA**
1-1 interaction leading the class
(Poehner, 2009)

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2.6 Studies on Cumulative G-DA

- ▶ Lantolf and Poehner (2011)
 - Elementary school Spanish class on learning adjectives

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Research Questions

1. Will G-DA help promote the learning of prepositions in a Japanese English classroom?
2. Will G-DA be as or more effective than Non-DA (N-DA) intervention?

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Research Questions

3. Will G-DA really help promote development for everyone in the class?
4. **What are the characteristics of learners who benefit more/less from G-DA?**

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3 Method

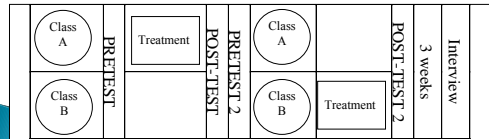
- ▶ 3.1 Research Design
- ▶ 3.2 Participants
- ▶ 3.3 Instruments
- ▶ 3.4 Treatment
- ▶ 3.5 Data Analysis

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3.1 Research Design

- ▶ Interventionist G-DA
- ▶ Target item: Prepositions
- ▶ Pretest - Post-test Followed by an Interview



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3.2 Participants

- ▶ 85 ($n(A) = 43$, $n(B) = 42$) Freshmen high school students
- ▶ t -test on GTEC score ($m = 454$, 439) ($t = .959$, $df = 83$, $p = .34$)
- ▶ Two 50-minute classes per week

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3.3 Instruments

- ▶ 3.3.1 Pretest and Post-test
- ▶ 3.3.2 Prompts Given
- ▶ 3.3.3 Interaction grid
- ▶ 3.3.4 Interview

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3.3.1 Pretest and Post-test

- ▶ Multiple choice fill-in-the blank
- ▶ 30 problems for 20 minutes
- ▶ Each item 1 point

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3.3.1 Pretest and Post-test

- ▶ 1st set: on, in, to, with, at, of (piloted, item facility < 0.5 , Point-biserial correlation coefficient > 0.25) (Brown, 2005)
- ▶ 2nd set: above, over, around, along, through, across

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3.3.2 The Inventory of Prompts

- ▶ 0. No mediation
- ▶ 1. Pause
- ▶ 2. Repeat the whole phrase questioningly
- ▶ 3. Repeat just the part of the sentence with the error
- ▶ 4. Teacher tells the student to rethink the answer
- ▶ 5. Teacher points out the incorrect word
- ▶ 6. Teacher asks either / or questions
- ▶ 7. Teacher identifies the correct answer
- ▶ 8. Teacher explains why

(Adapted from Poehner, 2009)

3.3.3 Interaction Grid

- ▶ Prompts plotted on a grid

Name	INTRCT 1	INTRCT 2	INTRCT3	INTRCT 4
Student 1				
Student 2				
Student 3				
Student 4				
Student 5				
Student 6				
Student 7				
Student 8				

3.3.2 The Inventory of Prompts

- ▶ 0. No mediation
- ▶ 1. Pause
- ▶ 2. Repeat the whole phrase questioningly
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- ▶ 8. Teacher explains why

(Adapted from Poehner, 2009)

3.3.3 Interaction Grid

- ▶ Prompts plotted on a grid

Name	INTRCT 1	INTRCT 2	INTRCT3	INTRCT 4
Student 1	7			
Student 2		5		
Student 3			5	
Student 4				1
Student 5				
Student 6				
Student 7				
Student 8				

3.3.4 Interview

- ▶ 13 students
- ▶ 9 successful ($m = + 7.4$)
- ▶ 4 unsuccessful ($m = - 1.75$)
- ▶ structured interview (30 items)
- ▶ average of 16.03 minutes

3.3.4.1 Interview Items

- ▶ Personal information
- ▶ about classes in general
- ▶ about the treatment
- ▶ about prepositions
- ▶ coded into: attention and attitude

3.4 Treatment

▶ Narration task



(Mayer, 1967)

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3.3.2 The Inventory of Prompts

- ▶ 0. No mediation
- ▶ 1. Pause
- ▶ 2. Repeat the whole phrase questioningly
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- ▶ 8. Teacher explains why

(Adapted from Poehner, 2009)

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3.5 Data Analysis

- ▶ 3.5.1 Pretest and Post-test
- ▶ 3.5.2 Interaction Grid
- ▶ 3.5.3 Interview

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3.5.1 Pretest and Post-test

- ▶ Gain score analysis (GSA)
Gain score = Posttest - pretest
- ▶ *t*-test on the gain score

**repeated measures ANOVA = GSA*

(Huck and McLean, 1975)

**Gain score analysis as powerful as ANCOVA*

(Oakes and Feldman, 2001)

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3.5.2 Interaction Grid

- ▶ The transition of the mediation
- ▶ The actual utterance of the students
- ▶ The correlation between the gain score and the frequency of mediation

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3.5.3 Interview

- ▶ Fisher's exact test (significance of the deviation from a null hypothesis can be calculated exactly, can be used for small and unbalanced sample) for the quantifiable questions
- ▶ Other noticeable differences

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4 Results

- ▶ 4.1 Pretest and Post-test
- ▶ 4.2 Interaction Grid
- ▶ 4.3 Gain score \times f of Occurrence
- ▶ 4.4 Interview

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4.1 Pretest and Post-test

- ▶ All 4 tests **increased significantly**
- ▶ Intervention > Control
but **No significant difference** in
the gain score
- ▶ **No single preposition gained**
significantly

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4.4 Interview

- ▶ 9 successful students (S group)
- ▶ 4 unsuccessful students (U group)
- ▶ no significant difference in
English ability

GTEC score $t = 0.88, df = 11, p = 0.40$

1st trimester $t = 0.60, df = 9, p = 0.56$

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4.4.1 Profile of Participants

- ▶ profile showed no significant
difference in:
 - prior experience of English
S group 6, U group 2 ($p = 1$)
 - current extracurricular
activity involving English
S group 3, U group 1 ($p = 1$)

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4.4.2.1 Attention

- ▶ Q16. Do you remember the content
when another student was being
corrected?

(Answered Yes)

S group 8, U group 1 ($p = 0.05$)

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4.4.2.1 Attention

- ▶ その、他の人が間違えて文章を書いて、間違えたポイントと同じ
間違いをしているとか、そういう時ってのはやっぱり、あーそうなの
かっていうふうにあの考えを直したりもします。

Umm, when others wrote a sentence
incorrectly, and when I made the same
mistake, then I think **oh, that's how**
it's suppose to be, and sometimes
rethink it. (Oh)

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4.4.2.2 Attention

- ▶ Q21. Did you notice that the prompts were graduated?

(Answered Yes)

S group 4, U group 0 ($p = 0.23$)

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4.4.2.2 Attention

- ▶ いきなり答えをボンというわけじゃなくてステップを踏んでっていうのがなんとなく分かった

I could kind of guess that you didn't just give away answers **but going step by step**

(Taro)

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4.4.2.2 Attention

- ▶ まー、なんか言われて見ればそうだったかもって思う
Now that you mention it, I kind of thought that was the case.

(Satoshi)

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4.4.2.3 Attention

- ▶ Q24. what were you thinking while waiting?

(Answered paying attention to the interaction)

S group 5, U group 2 ($p = 1$)

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4.4.2.3 Attention

- ▶ あー、こんな感じに注意されてるんだみたいな
Oh, so this is how I was given feedback.

(Koji)

- ▶ うーん、自分でも考えながらどんな感じなのかなって、聞いてはいたと思う

Umm, I think was listening and thinking how they would do it. (Satoshi)

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4.4.2.4 Attention

- ▶ Q19. what do you remember about the treatment (looking at the video taken during the treatment class)

→was not quantified but...

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4.4.2.3 Attention

- ▶ S group all mentioned remembering the correction or the vocabulary that came up
- ▶ 2 of the U group mentioned that they don't remember much even after watching the video

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4.4.2.4 Attention

- ▶ 細かいことですが訂正されてたのはよく覚えています
I remember people getting corrected for the small details (oh)
- ▶ いや、まあ、その生徒が間違えて、先生が訂正したまあ、そんなそういうところはちゃんと覚えてる
Well, umm, when the student made a mistake, and you corrected him, and I remember things like that (Taro)

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4.4.3.1 Attitude

- ▶ Q25. Were you preparing for the task while waiting?

(Answered Yes)

S group 9, U group 2 ($p = 0.01$)

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4.4.3.1 Attitude

- ▶ 次のコマのことはまー、考えて、だいたい文章は頭の中で考えてあった。

The next box, well, I was thinking, I had a rough idea of the sentences in my mind

(Tanaka)

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4.4.3.1 Attitude

- ▶ えー、まー見ながら、ある程度の事を考えてました、状況把握ぐらいは

Well, umm, I was looking and I was thinking of it somewhat, at least knowing what's going on

(Satoshi)

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4.4.3.1 Attitude

- ▶ いや、用意してないです。普通にフォレストをパって読んで

No, I wasn't preparing. I was just reading the "Forest" textbook

(Matsuoka)

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4.4.3.2 Attitude

- ▶ Q26. The impression they have of prepositions.

(answered it's difficult)

S group 5, U group 4 ($p = 0.23$)

4.4.3.2 Attitude

- ▶ え一つとですね、その一つの前置詞にやっぱりたくさん意味があつて ... そういうのがやっぱ多いのは難しいですね
well, each preposition has many meanings, ... when it has many meanings like that it is difficult

(Ohtani)

4.4.3.2 Attitude

- ▶ あの、なんていうか、元の意味みたいのを分かっていればある程度予想がつくっていうか

well, how can I explain, if you know the basic meaning, you can, to an extent, **guess the meaning**

(Ken)

4.4.3.2 Attitude

- ▶ いや、まー仕組みを覚えちゃえば、だいたい分かる、まーだいたい勘でできるかな

Umm, if I learn the structure, **I can roughly get the meaning; I guess I can do it by intuition**

(Satoshi)

4.4.3.3 Attitude

- ▶ Q18. was the picture description task difficult?

(answered No)

S group 6, U group 1 ($p = 0.27$)

4.4.3.3 Attitude

- ▶ 難しくはたぶん無いと思いますね。既存のあれでできると思います

I don't think it's hard. I can do it with what I already know (Tanaka)

4.4.3.3 Attitude

- ▶ ... 以外と思いついてあー簡単だなんて思うことはあったんです
... surprisingly, I would come up with ideas and think, **oh this is easy**
(Oh)

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4.4.3.4 Attitude

- ▶ Q7. Are you worried about making mistakes?

(answered yes)

S group 6, U group 2 ($p = 1$)

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4.4.3.4 Attitude

- ▶ 他の時はあんまりきにしてなかったですけど、英語の時はちょっと気にすると思います
I really don't mind in other classes, but **I do a little in English**
(Glove)

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4.4.3.4 Attitude

- ▶ Q8. Don't want to speak out in class unless you know the answers

(answered yes)

S group 7, U group 2 ($p = 0.53$)

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4.4.3.4 Attitude

- ▶ 発表自体はいいんですけど、まー間違えてると恥さらしというか
I don't mind speaking out but if I make a mistake, **it's a bit humiliating**
(Tanaka)

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5 Discussion

- ▶ what are the characteristics of learners who benefit more/less from G-DA?

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5 Discussion

- ▶ Differences in attention
 - S group more attentive (paid more attention) during class
 - S group remembering more about the class

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5 Discussion

- ▶ Differences in attitude
 - S group perceived task/preposition to be less difficult than U group
 - S group more afraid/ashamed of making mistakes → more preparation

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6 Limitations

- ▶ The small number of participants
- ▶ Smaller number that were interviewed
- ▶ Short period of treatment
- ▶ Unsuccessful group = ceiling effect?
- ▶ The validity of the second set of test
- ▶ Does not show true potential w/o DA on individual

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7 Implications

- ▶ Statistical assessments do not show potential growth of students
- ▶ Individual differences play a role
- ▶ Being afraid of making a mistake might not totally be a bad thing

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7 Implications

- ▶ Empirical research is needed for:
 - other grammatical items
 - more longitudinal study
 - interactionist G-DA
 - comparison of G-DA and Formative Assessment
 - detailed examination of the effect of individual differences

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