# **EFL**

2002 6

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	bstract	<b>y</b> p
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4	2.1	
_	2.2	
······································	2.2.1 2.2.2	
11	2.3	
	2.3.1	
2.3.2.1	2.3.2	
2.3.2.2		
18	2.4	
21	3.1	
22	3.2	

		4.1
23	4.1.1	
	4.1.2	
2		
3		
28		
5		
		4.2
30	4.2.1.	
31	4.2.2	
		4.3
	4.3.1	
45	4.3.2	
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48	4.3.4	
49	4.3.5	
55	•	
60		

	1
/ 入/ / s/	2
/23	3
20	4
2	5
2	6
	7
29	8
3	9
	10 / f/
	11 / v/
<b></b> 33	12 / <sub>O</sub> /
	13 / ð/
	14 / s/
	15 / z/
	16 / ʃ/
	17 /h/
40	18
24	1
	2
3	3
45	4
A <sup>r</sup>	5

### An aspect of the English fricative pronunciation by Korean EFL children in the beginning level

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#### Abstract

This paper addresses the error types of English fricatives that could happen to Korean students at the early stage of English learning. For this purpose, first, 228 words which include fricatives were collected from the textbook of the elementary school based on the 7th Korean national curriculum. And then, they were classified according to the position of fricatives: initial, medial, and final. Ten students with no special training before in learning English participated for this experiment. They were ranged from the 1st graders to the 3rd graders aged from 6 to 8.

The students studied the chosen words for 6 hours in the first week. In the following week, they listened to the words they had already learned and repeated them. The production was recorded and transcribed. The transcribed data were divided into correct production and incorrect production. The incorrect production was subclassified according to the error types such as replacement, deletion, insertion, combinatory types of errors, and others.

In the results of this experiment, the overall error rate of the Korean EFL children in producing the English fricatives was very high accounting for 55.29%. Considering error types, the majority of the children tended to substitute a target fricative with other sounds, taking

up 47.79%. Other error types such as deletion, insertion, and combinations were amounted to less than 3%.

There was a strong positional effect. That is, the subjects performed better in the word-initial positions showing 51.80% of accuracy rate than in word-medial position(27.23%) and in the word-final position(40.94%). Investigating each phonemes, Korean children showed a high accuracy rate when they produced English words with the glottal fricative /h/ and the palato-alveolar fricative /ʃ/; 98.07% of accuracy was obtained for /h/ and 88.66% for /ʃ/. By contrast, the children showed a very low accuracy rate for the labio-dental and inter-dental fricatives(/f/: 25.72%, /v/: 12.97%,  $\Theta$ : 12.58%, and / $\eth$ /: 7.25%). Further, they tended to have more difficulties in producing voiced sounds than voiceless sounds.

This study shows that it is not an easy task for Korean students to acquire English fricatives in the beginning level. Thus, it is necessary for the Korean children to be provided with more systematic pronunciation training. Finally, it is emphasized that the effective pronunciation teaching could help to improve the ability of understanding the target language and to increase their communicative ability with more acceptable pronunciation in a real situation.

가 가

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. EFL(English as a

Foreign Language) (input)

.

. EFL

. ,

' (accuracy)' ' (fluency)' .
' ' ' フト

. Morley (1991) "Intelligible pronunciation is an essential components of communication component of communicative competence"

. ,

(place of articulation) 7 .

(universal hierarchy of difficulty)

/f, v,  $\Theta$ ,  $\eth$ , s, z,  $\int$ ,  $\Im$ , h/

9가

.

- 2 -

가 . 가

•

2 가

2.1

가 .

가 . 가 (transfer)

- 4 -

, Lado(1957) 가 가 (place of articulation), (manner of articulation) 가 가 가 가 가 가 (intelligibility) 12 가 가 Lenneberg (1957)가 가 (critical period) , Oyama(1979) , 60

가 가 EFL 가 가 가 가 (monitoring) 가 가

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2.2

2.2.1

(labiodental fricative) /f, v/, (interdental fricative) / $\Theta$ ,  $\eth$ /, (alveolar fricative) /s, z/, (palato-alveolar fricative)  $/\int$ , 3/, (glottal frivxative) /h/ 9 7 . /h/. /f, ө, s, (voicing)  $\int$ , h/ /v, ð, z, 3/ /3/ (breath force) . , /h/ /s, s', h/ 3 가 [±tense]가 [ʃ] 가 /s/ (1a) (1b) [s] .

(1) /s/
a. ''[ʃil] ''[ʃinmʊn] '~ '[haʃjət'a]
b. ''[saram] ''[ɨmso]

1

.

1.

/ sh/

f	Θ	s	ſ	h
 V	ð	Z	3	
			S	h
			s'	

(voiceless 가 가 labio-dental fricative) /f/ (voiced 가 labio-dental fricative) /v/ (voiceless interdental fricative)  $/\Theta$ / /f/가 (voiced interdental 가 fricative) /ð/ /ð/ (voiceless alveolar fricative) /s/ /入/ /从/ / s/ 가 / 入/ 가 Avery 入/ Erhich (1992) / s/

/ s/

가

/*N*/ .

2.	/人/	/s/	
	/ \/		

(voiced alveolar fricative) /z/

/ s/

. (glottal fricative) /h/ 가 , , /h/

.  $\label{eq:force_force} $$ /f,\ v,\ \Theta,\ \ \mbox{\o },\ z,\ \floor\ \$ 

/s/ / \!\ .

2.2.2

```
Bruder(1979)
                            Paulston
         (interference)
       (phoneme)
                          (allophone)
                                         . /⊖/ /ð/
                                    가
                                     가
가
                      / p/
                            /b/
                                                         /1, r/
            / 근/
                                              / 근/
                                                                     /r/
                             /1/
                                   가
                                                           가
       /ŋ/
                                          (sing, singer).
            / ŋa/
            가,
                                가
                                가
                                                                  :
            /d/
                  /t/
                            (dental)
                                                 /t/
                                                     / d/
```

가 /f, v,  $\Theta$ ,  $\eth$ , z, 3/ 가  $[\![]\!]$ [s] 2.3 2 가 가 가 (interlanguage) (systematicity) (rule-governed behavior) 가 (categorial rules)

- 11 -

(intraligual interference) 2 (successions of approximative 가 systems) 가 (universal hierarchy of difficulty)가 , [ð] 가 가 (interlingual error) , (intralingual transfer) 가 (Brown, 1994). (overgenralization) 가 가

2.3.1

1 Kilinster Laird(1978) 75% . 3 /h/, /y/, /w/, / ŋ/,/m/,/n/, / **z**/ , /g/, /d//p/, /k/, /t/,/b/, , 4 3 6 / **f**/ /1/**,** / **tʃ**/ , 4 6 /∫/, /1/, /s/, / z/ , 5 가 /r/ , 6 가 /ð/, 8 /v/, 8 / <del>O</del>/ 6 . 1 / 入/ 가 6 7 ( , 2000). 가

- 13 -

```
(2)
                                               (Bowen, 1998).
                                               : /p/
                                                       [b]
   a.
            /f/ /v/ /k/ /g/
              , "pig /pig/" "[big]"
                                                    : "red /ræd/"
   b.
      [ræt]
                    (word-final deletion): "calf /cælf/" [cær]
   c.
                                           (velar fronting):
   d.
          "give /giv/"
                               가 "[div]"
                                                  (palatal fronting):
   e.
      "ship / \( \int \) [sip]
                                            "mezza"
                                "measure"
   f.
                                                   가
             (consonant harmony):
                            . "cupboard"
                                           "pubbed"
      "cupboard"
                               /k/ /p/
                                 / p/
     "dog /dog/"
                                 /d/가 [g]가
                   /g/
                                                    [gog]
                                 (week syllable deletion):
   g .
                                "tiding /taɪdɪŋ/" [taɪɪŋ]
      "telephone" [tefoon],
```

- 14 -

```
(stopping):
                                                                               (;
        "funny /f_{\Lambda}n_{i}/" \rightarrow [p_{\Lambda}n_{i}]).
    i. 자
                       (cluster simplification): "spider /spaɪdər/"
                                                                            [paɪdə]
                         "ant" "at"
                                                          가
             / s/
                  / n/
    1
                                                      [p] ,
                            /f/
                                                                                / <del>O</del>/
                                                                / s/
                            [t]
                            / z/
      [t] ,
                                                        [d]
                                                         가
                                                (Dinnsen 1992).
(3)
    a./f/ [p]
       [pεdo] 'feather'
                                   [lipi] 'leafy'
                                                           [naɪp] 'knife'
    b./e/
              [t]
       [t<sub>A</sub>m] 'thumb'
                                   [titi] 'teethy'
                                                           [tut] 'tooth'
    c./s//t/
                                   [duti] 'juicy'
                                                           [jɛt] 'yes'
       [t \Lambda m ] 'sun'
    d. / z/
              [d]
                                   [noɪdi] 'noisy'
                                                          [toʊd] 'toes'
       [dibwə] 'zebra'
```

h.

2.3.2

·

2.3.2.1 (palatalization)

/i/

Cho(2000) /s/7} (front high

, Lee

vowel) /i/ [ $\int$ ] . (4a)

"circle", "sun", "soap", "sand" /s/7 [i]

[s] , /s/7<sup>†</sup> [i]

/ sit/ [ʃit], / sik/ [ʃik]
"", "" / / / / ] /

" , " / | /

가 .

(4) /s/ (Lee & Cho, 2000)

- a. [s] for target /s/ before other than [i]
  - [s] 'circle' [s] 'sun'
  - [s] 'soap' [s] 'sand'

b. [∫] for t	target /s/ before /i/				
[ʃ] 'sit'	[[	sick'			
[ʃ] 'sinl	κ' [ʃ	sing'			
2.3.2.2	(replacement	:)			
. Lo	mbardi(2000) EF	L			
(interde	ental fricatives) / $\Theta$ /	[t]		[s]	
•					
(5) EFL		(Lombardi	2000)		
a. [t]	: ,	, 가			
b. [s]	: ,	, ,			
,	, 가		/ <del>0</del> /	[t ]	
	, ,	,			[s]
. /t/		(voiceless stop	(s) /s/		
(voice	eless alveolar frica	tive) .			
	(unmarked	)	, [s]		/ <del>O</del> /
	가				
(1997	) / f/	[p], [h]		/(	Θ/ [s],
[c'] [t'] /ð	/ [ <del>t</del> ]				

```
( , 1997)
(6)
                          a. /f/ [p]
                                                                                                                                  [h]
                                             [pæn] 'fan'
                                                                                                                                                                                    [hwæn] 'fan'
                         b. /<sub>\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\ti}\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\tin}\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\texit}\xi}\\ \text{\text{\text{\text{\text{\text{\text{\text{\text{\tinit}\\ \text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\tinit}\xi}\\ \text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\tinit}\\ \tinit}\\ \tittt{\text{\text{\text{\text{\text{\text{\ti}\tilit{\text{\text{\text{\text{\text{\text{\text{\text{\text{\ti}\til\tinit}\\ \text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\texi}\text{\text{\text{\text{\text{\text{\text{\text{\text{\texi}\text{\text{\texi}\text{\text{\texi}\text{\text{\tilit}}\\tint{\text{\text{\text{\text{\tint}\text{\text{\text{\ti</sub>
                                                                                                                                                        [s'æŋk] 'thank' [t'æŋk] 'thank'
                                            [sæŋk] 'thank'
                         c./ð/ [t]
                                             [te<sub>I</sub>] 'they'
2.4
             Morley (1994)
                                               (functional intelligibility)
                                                            (functional communicability)
                                                                                                                                                                                                                                                                                                                               가 (increased
self-confidence)
                                                                                                             (speech monitoring abilities and speech modification
strategies for use beyond the classroom)
```

Morley (1991) , 2 가 (facilitator) (speech awearness), 가 (self-awarness) 가 (self-monitoring) 가 가 (imitative practice), (rehearsed speaking practice), 가 (extemporaneous speech) (dependent practice), (guided practice), 가 (independent practice) (Morley, 1991).

, , , , 가

3.1

.

3.2

7 . 227

, , , A .

2001 4 5 .

,

- 22 -

4.1

### 4.1.1

2172 44.71%
55.29%

プト 51.80% , 27.23%,
40.94% . プト
, (Carr, 1999).

3.

(	)				
	(2172)	44.71%	(971)	55.29%	(1201)
	(1249)	51.80%	(647)	48.20%	(602)
	(393)	27.23%	(107)	72.77%	(286)
	(530)	40.94%	(217)	59.06%	(313)

(golttal fricative) /h/가 가

98.07% (palato-alveolar

/ ʃ/ フト 88.66%, fricative) (voiceless alveolar ficative) /s/

가 67.11% (voiced alveolar fricative) /z/7 41.26%,

(voiceless labio-dental fricative) /f/7 25.72%,

(voiced labio-dental fricative) /v/7 12.97%, (voiceless interdental fricative) /0/71 12.58%, (voiced interdental

fricative) / ð/가 가 7.25%

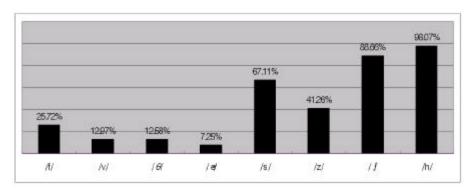
/3/

1

가

가

1.



/h/가 98.07%

가

/ **ʃ**/ 88.66% 67.11% / i/ / s/ 가 / **z**/ 41.26% /ð/ /<sub>O</sub>/ 7.25% 가 12.58% 가 가 가 4.1.2 4.1.2.1  $(labio-dental\ fricatives)$ /f/가 22%

- 25 -

28%

4.

	/ <b>f</b> /		/ v/
(	: 567)	(	: 294)
(354)	22.60% (	(80) (86)	12.79% (11)
(111)	26.13% (	(29) (100)	15.00% (15)
(102)	28.43% (	$(29) \qquad (108)$	11.11% (12)

/v/ 15%, 12.79%,

11.11% .

가 .

가 .

## 4.1.2.2 (interdental fricatives)

/ e/ 17.31%, 11.11%. 9.33% . 가가 ,

/⊕′

7 / ð/ 14.52%, 7.23%, 0% . 7 }

, 가

•

5.

	/⊕/		/ ð/
(	: 136)	(	: 155)
(75)	9.33% (7)	(62)	14.52% (9)
(9)	11.11% (1)	(83)	7.23% (6)
(52)	17.31% (9)	(10)	0.00% (0)

## 4.1.2.3 (alveolar fricatives)

/ s/ 70.23%, 64.02% . 60% . / s/

/人/

.

6.

	/ s/		/ <b>z</b> /
(	: 425)	(	: 146)
(264)	64.02% (169)	(38)	31.58% (12)
(30)	60.00% (18)	(50)	56.00% (28)
(131)	70.23% (92)	(58)	36.21% (21)

4.1.2.4 (palato-alveolar fricatives)

/ ʃ/ , 99.09%,
78.26% . , / \/
/ ʃ/

가 .

7.

( : 179) (110) 99.09% (109) (69) 78.26% (54)

4.1.2.5 (glottal fricative)

/h/ .

. 100%

96.15% 가 . /ゔ/ 가 , Bowen(1998) , /h/ 가

•

8. /h/

( : 270)

(260) 96.15% (250)

(10) 100% (10)

4.2

(substitution), (deletion),

(insertion), (combination) . ,

"face" [peɪs] /f/ [p]
, "finish" [fɪnɪ]

/ʃ/ .

"left" [lɛfɨt] /f/ /t/

/ɨ/가 가 . 가 ,

/brekfast/ [brekprest] /f/

/ p/ / r/ 가

• , ,

.

4.2.1

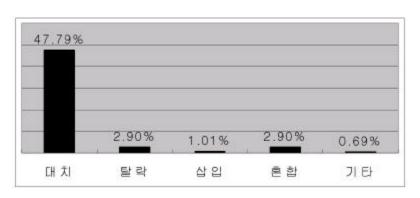
55.29%

. 2 47.79%

. 2.90%

, 2.90%, 1.01%

2.



, 9

가 45.96% . 0.72%,

0.32% 0.96%, 가 가 0.24% .

가 63.36% , 4.07%, 2.29%, 0.76%

가 2.29% .

40.57%가 , 8.49%,

6.60%, 2.83% 7\ .

8.49%

,

가 , 가 .

(	)	(%)	(%)	(%)	(%)	(%)	
	(1201)	47.79(%) (1038)	2.90(%) (63)	1.01(%)	2.90(%) (63)	0.69(%)	55.29(%)
	(602)	45.96(%) (574)	0.72(%)	0.32(%)	0.96(%)	0.24(%)	48.20(%)
	(286)	63.36(%) (249)	2.29(%)	0.76(%)	4.07(%)	2.29(%)	72.77(%)
	(313)	40.57(%) (215)	8.49(%) (45)	2.83(%)	6.60(%)	0.57(%)	59.06(%)

4.2.2

9.

. ,

, /f/ 7\; 70.62\% . 57.66\%, 54.90\% /f/ ,

,

.

10.78%

**10.** /f/

) 0.85% 77.40(%) 70.62% 1.98% 0.56% 3.39% (354) (250)(7) (2) (12) (3) (274) 57.66% 2.70% 0.00%5.41% 8.11% 73.88(%) (111) (64) (3) (0)(6) (9) (82) 54.90% 4.90% 0.00% 10.78% 0.98% 71.56(%) (102) (56) (0) (5) (11) (1) (73)

/ v/ / f/ 가

/ **f**/

. 26.85%

**11.** /v/

(	)						
	(0.6)	84.88%	0.00%	2.33%	0.00%	0.00%	87.21(%)
	(86)	(73)	(0)	(2)	(0)	(0)	(75)
	(100)	77.00%	0.00%	0.00%	8.00%	0.00%	85.00(%)
	(100)	(77)	(0)	(0)	(8)	(0)	(85)
	(100)	49.07%	26.85%	1.85%	10.19%	0.93%	88.89(%)
	(108)	(53)	(29)	(2)	(11)	(1)	(43)

, /θ/

88.00% , 88.89%,

80.77%

**12.** /<sub>O</sub>/

90.67(%) 88.00%2.67%0.00%0.00%0.00%(75) (66) (2) (0) (0) (0) (68) 88.89(%) 88.89% 0.00% 0.00% 0.00%0.00% (9) (8) (0)(0) (0) (0) (8) 80.77% 1.92% 0.00% 0.00% 0.00% 82.69(%) (52) (42) (0) (43) (1) (0)(0)

/ð/ , , 80% 가 . 6.02% , 10%

**13.** /ð/

(	)						
	(62)	85.48%	0.00%	0.00%	0.00%	0.00%	85.48(%)
		(53)	(0)	(0)	(0)	(0)	(53)
	(92)	86.75%	6.02%	0.00%	0.00%	0.00%	92.77(%)
	(83)	(72)	(5)	(1)	(0)	(0)	(78)
	(10)	80.00%	10.00%	0.00%	0.00%	10.00%	100(0/)
	(10)	(8)	(1)	(0)	(0)	(1)	100(%)

 ,
 /s/
 가
 35.98%,

 33.33%,
 21.37%
 가

. 5.34%

•

**14.** /s/

(	)						
	(264)	35.98%	0.00%	0.00%	0.00%	0.00%	35.98(%)
		(95)	(0)	(0)	(0)	(0)	(95)
	(20)	33.33%	3.33%	3.33%	0.00%	0,00%	39.99(%)
	(30)	(10)	(1)	(1)	(0)	(0)	(12)
	(121)	21.37%	5.34%	1.53%	1.53%	0.00%	29.77(%)
	(131)	(28)	(7)	(2)	(2)	(0)	(39)

/ z/ フト 68.42%, 36%

41.38%

, 3.45%

4%

**15.** /z/

(	)						
	(20)	68.42%	0.00%	0.00%	0.00%	0.00%	68.42(%)
	(38)	(26)	(0)	(0)	(0)	(0)	(26)
	(50)	36.00%	0.00%	4.00%	4.00%	0.00%	44.00(%)
	(50)	(18)	(0)	(2)	(2)	(0)	(22)
	(58)	41.38%	3.45%	1.72%	17.24%	0.00%	63.79(%)
		(24)	(2)	(1)	(10)	(0)	(37)

가 0.91% / ʃ/

14.49%

가 / <u>I</u>/ ,

**16.** /ʃ/

(110)	0.91%	0.00%	0.00%	0.00%	0.00%	0.91(%)
(110)	(1)	(0)	(0)	(0)	(0)	(1)
((0)	5.80%	0.00%	14.49%	1.45%	0.00%	21.74(%)
(69)	(4)	(0)	(10)	(1)	(0)	(15)

. /h/

.

**17.** /h/

(	)						
	(260)	3.85%	0.00%	0.00%	0.00%	0.00%	3.85(%)
		(10)	(0)	(0)	(0)	(0)	(10)
	(10)	0.00%	0.00%	0.00%	0.00%	0.00%	0(%)
		(0)	(0)	(0)	(0)	(0)	(0)

가 . ,

,

.

,

(Prince & Smolensky, 1993)

,

,

4.3

4.3.1

. ,

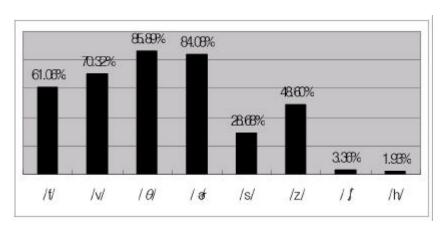
, / v/가

70.32%, /f/7\ 61.06% . /z/

48.60%, /s/ 28.68%, /f/ 3.36%, /h/

1.93%

3.



가

```
가
                                                                  (Maddieson,
                                                  (unmarked)
1984).
                                                  /<sub>O</sub>/,/ð/
                       /f/, /v/
                                          /p/, /b/, /t/, /d/
              (
                                           В
                                                          ).
(7)
    a. /f/
                 (/ f/
                          [p]
                                  [t])
        [lc'q]
                'fall'
                                 [peɪs] 'face'
                                                          [p'adər] 'father'
        [eptər] 'after'
                                 [bip] 'beaf'
                                 [dalt'In] 'dolphin'
                'free'
                                                          [halt] 'half'
        [tri]
                                 [g])
    b. /v/
                (/ v/
                           [b]
                                                          [h&b] 'have'
        [beri] 'very'
                                 [ebri] 'every'
        [mug] 'move'
                                 [log] 'love'
                                                          [twelg] 'twelve'
    c. / \Theta/
               (/ ⊖/
                         [t], [t'],
                                        [p])
        [ting] 'thing'
                                 [sa:t] 'south'
        [t'æŋk] 'thank'
                                 [pin] 'thing'
    d. /ð/
              (/\eth/ [d],
                                   [t],[k])
                                                          [wik] 'with'
                                 [wɪt] 'with'
        [dɛt] 'that'
```

([p, b, t, d, k, g])

```
(/z/ [d])
    f. / z/
        [tfidə] 'cheese'
    g./h/
                                [g], [p])
                 (/ h/
                         [k]
               'happy'
                                [kæ] 'hair'
        [k_{\Lambda}p_{I}]
        [gloʊ]
               'hello'
                                [p&] 'hair'
                                                         가 가
                                    [p]
                /f/
                      [t]
                                 (voiced bilabial stop) [b]
     /v/
                  (voiced velar stop) [g]
    . "heavy"
                  "[h&dI]"
                                                                       [d]
                                                     / <del>O</del>/
                                                                  (voiceless
(voiceless alveolar stop) [t]
bilabial stop) [p]
                                                        가 가
                     (voiced alveolar stop) [d]
/ð/
                                      [t]
                                            [k]
            / z/
                                                                    (7f)
                         [d]
                                                                 /h/
                                                    가 가
                               [k]
            [g]
                                    [p]
  가
               가
```

- 39 -

•

•

(8)
a. /v/ [p] [f]

[pɪktərɪ] 'victory' [pɪtə] 'victor' [əraɪf] 'arrive' [gɪf] 'give'

b./ð/ [θ]

[tʊgεθθr] 'together' [wɪθ] 'with'

c.  $/z/\rightarrow [s]$  [ss] 'as' [mis] 'Ms' [jus] 'use'

d.  $/z/\rightarrow [f]$ [tʃif] 'cheese' [mɪf] 'Ms'

(devoicing) .

. /f/ [p] , /e/ /s'/ /t'/ 7⊦ .

/f/  $[\Theta]$  ,  $/\Theta/$  [f] , /s/ [f] ,

/f/ [p] .

```
가 .
           (9a)
                            / f/
                                   [e]
/f/
      [\Theta]
                                      8
                                                         /f/ [Θ]
               . (9b)
                                               6
                                                     /f/ [s]
(9) /f/
    a. /f/ [\Theta] ( 8 )
       [\ThetaaI] 'five'
                                 [θΛn] 'fun'
       [teleoon] 'telephone'
                                 [IO3] 'before'
       [la<sub>I</sub>\Theta] 'life'
                                 [bi<sub>θ</sub>] 'beef'
                                                       [s'e<sub>IΘ</sub>] 'safe'
    b./f/ [s](6)
       [sud] 'food'
                                                       [ElisAnt] 'elephant'
                                 [ɛstər] 'after'
       [bjr<sub>I</sub>sl] 'beautiful'
                                 [laɪs] 'life'
                                       /O/
                                              가
                                                         / s/
  (10a)
                              가 가
                                                                      (10b)
                        2
                              / <del>O</del>/
        [f]
[f]
                                                     / <del>O</del>/
                                                             [f]
                     (Dinnsen & Barlow, 1998).
```

 $(10) /_{\Theta}$ 

```
a. /⊖/ [s]
                                    [s<sub>I</sub>k] 'thick'
                                                                [so:ti] 'thirsty'
         [s'æŋk] 'thank'
         [bɔ:s] 'both'
                                    [noəs] 'north'
                                                                [mans] 'month'
      b./<sub>Θ</sub>/ [f] (
                               2 )
                                                                [fæŋk] 'thank'
         [fɪŋ] 'thing'
                                    [f<sub>\Lambersize m</sub>] 'thumb'
         [czonafən] 'Jonathan' [mavf] 'mouth'
                         / s/ 가
                                                           [f]
             2
                                                                                 (11b),
        / s/
                                                                         /入/
                / s/
                         [f]
      / 入/
              가
                                                                                   / s/
                                               가 / s/
        가
(11) / s/
                              2 )
      a./s/ [f](
         [fæd] 'sad'
                                            'sea'
                                                                [for<sub>I</sub>] 'sorry'
                                     [fi]
         [fəftɪ] 'thirsty'
                                    [nif] 'niece'
                                                                [həəf] 'horse'
         [naɪf] 'nice'
                                    [jɛf] 'yes'
                                                                [tjonif] 'tennis'
         [waif] 'rice'
                                    [fkul] 'school'
                                                                         'this'
                                                                [dɪf]
      b./s/[\Theta]
                              8 )
                                                                [m avo] 'm ou se'
         [өэŋ] 'song'
                                    [okul] 'school'
(11b)
                     / s/
                                                                         , Dinnsen
                             [\Theta]
Barlow (1998)
                                                              [f]
                                                                               , /s/
                                                      / <del>O</del>/
```

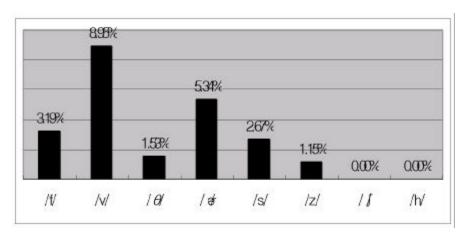
[ $\Theta$ ] / s/ [θ] 가 (12a), /h/(12b). (12) / ʃ/ a./ʃ/ [Θ] [d<sub>I</sub> $\Theta$ ] 'dish' [fIO] 'fish' b./ʃ/ [h] [hip] 'ship' 가 1 / <u>ʃ</u>/ , "ship" / s/ [ʃip] (Bowen, 1998) [sip] 가 / <del>O</del>/ / s/ /i// ʃ/ / s/ [i] / s/  $[\![]\!]$ , /<sub>0</sub>/ (Dinnsen, & Barlow, 1998) (inteligibility) / e/ / s/

(13)

```
a. /s/가 /j/ /i/
                                  [∫ɪt] 'sit'
      [[izn] 'season'
      [ʃi] 'sea'
                                  [sit] 'seat'
      [Isiten [Id] 'expensive'
    b./⊖/기·/i/
                                  [∫Iŋk] 'think'
      [∫ɪn] 'thin'
      [ʃɪŋ] 'thing'
                                  [[Iki] 'thick'
                   ((consonant harmony)
 , "finish" , /∫/기
                                    / f/
                                         []
                                          (ease of articulation)
        (economy of efforts)
                                 (Cho, 2001; Smith, 1973) EFL
                                               가
                                                   가
(14) (consonant harmony)
                           [seis] 'face'
                                                [sest] 'fast'
    [ʃɪnɪʃɪ] 'finish'
    [feɪf] 'safe'
                     [fəfty] 'thirsty'
                                                [өегө] 'safe'
    [brεmpa] 'grandfather' [θεdwiθ] 'sandwitch'
                                                [vɪft] 'visit'
```

4.3.2

4.



18.

/ f/	/ v/	/ e/	/ ð/	/ s/	/ z/
1.98% (7/354)	0.00% (0/86)	2.67% (2/75)	0.00% (0/62)	0.00% (0/264)	0.00% (0.38)
2.70% (3/111)	0.00% (0/ 100)	0.00% (0/9)	6.02% (5/83)	3.33% (1/30)	0.00% (0/50)
4.90% (5/ 102)	26.85% (29/108)	1.92% (1/52)	10.00% (1/10)	5.34% (7/ 131)	3.45% (2/58)

(15)

a.

[
$$\mathfrak{g}$$
:] 'of' [fa:] 'five' [twɛl] 'twelve' [gi] 'give' [Ispɛnʃi] 'expensive' [daɪ] 'drive' [wi] 'with' [naɪ] 'nice' [ni] 'niece'

b.

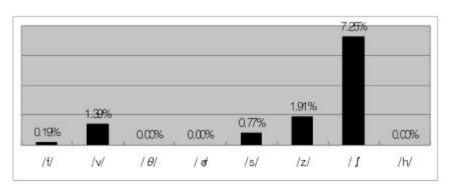
$$[il\epsilon \int I] \quad \text{`finish'} \qquad \qquad [id\exists II] \quad \text{`visit'}$$

## 4.3.3

/<u>ʃ</u>/

가

5.



/ f/ [I], [i]가 . CVC CV

.

(16)

a. [I]

 $[dI \int I]$  'dish'  $[pv \int I]$  'push'

[Iŋglɪʃɪ] 'English' [bra:ʃɪ] 'brash'

b. [i]

 $[\Theta a I b \dot{i}] \quad \text{`five'} \qquad \qquad [fr \epsilon n d \dot{i}] \quad \text{`friend'}$ 

[hoopi] 'hope'

(17)

"left" "[lɛfɨt]" / **i**/ 1 2 [<u>i</u>] (17) [lɛfɨt] 'left' [pɨtɨn] 'often' [æpɨtə] 'after' 4.3.4 가 , "breakfast" "[brekprest]" /r// **f**/ [pr] /f//p// r/ 가 / &/ (sonority)가 가 (onset) /r/(nucleus) (sonority sequencing principle) / r/ (18) [brekprest] 'breakfast' [oaoft] 'south' [fren] 'ven' 'have' [hept] (19) /z/[ෆ්ූහ] [dʒ1]

[dʒ] (19) [mɪʤʊ] 'Ms' [mɪʤɪ] 'Ms' [seɪtɨ] 'safe' [bebit] 'vest' 4.3.5 0.69% "hospital" s p가 [f] (20)(coalescence) 3 .(Wolfrom & Johnson, 1982). Cho(2001) (first language acquisition) /sm// sp/ [f] (foreign language acquisition) 가 (20)

/ z/ フト

가

```
a. /sm/,/sp/ [f]
       [fma<sub>I</sub>l] 'smile'
                         [həfɪdəl] 'hospital'
    b./st/ [ʃ]
      [frid] 'street'
  (21)
(22)
    a. /f/ [ps]
      [lɛps] 'laugh'
    b. ⊖ [bd]
      [wsbd] 'with'
     c./f/ [st]
      [str<sub>\L</sub>m] 'from'
     d. /f/ [ps]
       [psAn] 'fun'
                   EFL
                                                                   (
    ) 44.71%
                                    가
            /h/가 가
                                  98.07%
      / ʃ/ フト 88.66%
                                                   /s/가 67.11%
```

, , ,

.

,

,

. 가 .

44.71% .

. 51.80%, 27.23%, 40.94%

, 가 .

·

. 가 ,

/ H , / ð/ 가 .

.

가 /h/가 가 가 / **I**/ 가 55.29% 가 가

- 53 -

가

,

가 (self-awareness) 가 (self-monitoring)

, ,

가 ,

フト , /b/ /v/フト

( : berry, banana, vanilla, veal) (Babara, Bob, Vickei, Steve)

가 .

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,

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. (1996).
. (2000).
. (1998).
                     4:
                          , (1999).
 :
                    . http://www.didsnara.com.
                                                  2002
                                                          3
. (2000).
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. (1998).
                                              4(1), 111-133.
. (1998).
                   : 3
                                                       가
. (1999).
. (1998).
                     3:
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. (1997).
 6 , 145-171.
. (1997).
  3 , 29-54.
. (2000).
                                                     가
. (1997).
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- 55 -

- . (2001).
- . (1998). 4: :
- . (1999). *가 가*. :
- . (1997).
- . (1999).

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## A

< >

	face, fall, family, far, farm, fast, fat,	after, afternoon,	beef, half, if, knife,
	father, field, find, fine, finger, finish,	beautiful, before,	laugh, left, life, off,
	fish, flag, flower, fly, follow, food,	breakfast, dolphin,	safe, leaf, woof
f	foot, for, fox, free, friend, frog, from,	elephant, telephone,	
	front, fruit, full, fun, phone, fork,	fifteen, refrigerator,	
	five, fire fighter, four, five	nephew	
	vegetable, very, visit, violin, victor,	arrive, cover, evening,	drive, expensive,
	victory, vacuum, van, vest	every, heavy, movie,	have, love, move, of,
v		never, over, TV	five, live, twelve,
		television, eleven	arrive, give
	thank, thick, thin, think, thirsty	Jonathan	month, north, south,
ө	thigh, thing, thumb, through,		tooth, mouth, both
	thousand		
	then, that, the, than, there, they, this	together, brother,	with
		mother, rather,	
ð		father, together,	
		grandmother,	
		grandfather, other	
	shall, she, ship, shoe, shop, short,		dish, brush, push,
1	shoulder, shout, show, shirt, sure		wash, English, finish,
			fish
3	1 6	television	
	sad, safe, same, sandwich, say, smile	expensive, thirsty,	miss, mouse, nice,
	season, seat, see, sell, send, set, sit,	hospital	niece, nurse, office,
S	so, soap, soccer, sock, some, school		once, pass, police,
	song, sorry, sour, south, subway,		rice, tennis, yes,
	son, summer, sun, supper, street, sea		desk
z	zebra, zero, zoo, zipper	cousin, music, season,	excuse, Ms., nose,
	hair, half, happy, hard, hate, hello,	easy behind	please, use, cheese
		Jonniu .	
,	have, he, head, heavy, hippopotamus		
h	here, hi, high, hobby, hold, help		
	home, hope, horse, hot, house, how,		
	hungry, hamburger, helicopter, hat		

B

< >

1

frog [prog] face [p'eis] from [strom] fall [p'ɔl] front [ps'ənt] family [semili] fruit [srot] far [p'a] full [pul] farm [p'am] fun [p'ən] fast [sest] phone [p'oon] fat [sæt] fork [pɔ:k] father [p'adər] five [p'a<sub>1</sub>b] field [p'IƏl]

find [p'aɪn] fire fighter [p'aɪjə p'aɪdə] four [p'ɔə]

finger  $[\int III]g \partial r$  five [paib] finish [ini] after  $[eft \partial]$ 

fish [p'i] afternoon [ɛftənun]
flag [p'læg] beautiful [bjuripəl]
flower [slawə] before [bɪp'ɔə]

fly [ilaɪ] breakfast [brɛkprɛst]
follow [p'ɔloʊ] dolphin [dalpɪn]
food [p'u] elephant [slisent]

food [p'u] elephant [ɛlisənt]
foot [p'ʊt] telephone [tɛlɪfoʊn]
for [pɔ] fifteen [ʃɪptɪn]

fox [p'aks] refrigerator [rɪp'rɛʤərɛrə]

free [sri] half [hal] friend [prend] if [ip]

knife [nais] of [a:] laugh [la:p] TV [tɪbɪ] left [lɛt] five [saib] life [laɪp] live [la<sub>1</sub>b] nephew [nepjo] twelve [telb] safe [s'eip] thank [s'æŋk] leaf [wib] thick [s<sub>I</sub>k] vegetable [bedsttəbl] thin [s'In] very [beri] think [s'Ink] visit [bɪcht] thirsty [sə:ti] violin [barəlın] thumb [səm] victor [bikt'ə] thigh [sai] victory [bikt'50] thing [sin]

vacuum [beikjum] thousand [sazznd]

van [fren] both [bos]

vest [bgbt] Jonathan [dzonasn]

month [mən] arrive [əlaɪb] cover [k<sub>\lambda</sub>bə] north [nood] evening [ibniη] south [saws] every [Ebr] tooth [tsus] heavy [hgb1] that [det] movie [robi] the [də] never [reba] then [den] over [voba] there [dea] eleven [[lebn] they [del] drive [draib] this [diə]

expensive [ɪkspɛnsɪ] together [tʊgɛdər]
give [gɪb] brother [bradə]
have [hɛb] rather [wadə]
love [lə:g] father [p'adə]

move [mug] grandmother [grenmada]

grandfather [grenp'ada] fox  $[p' \supset ks]$ other [adə] full [pul] fire fighter [p'aɪjə p'aɪdə] mother [madəl] with [wibd] four [p'ɔə] five [p'a<sub>1</sub>b] season [sizn] rice [brain] beautiful [bjurip'vl] before [bip'5] zebra [tʃɪbə] zero [dziro] breakfast [brepəst] zoo [cˈʒu] dolphin [dalt'In] telephone [telipown] zipper [dzipə] as [es] fifteen [piftin] easy [Ictzi] knife [nai] Ms. [mi] left [left] hair [peə] nephew [newhjv] happy [pepi] say [sein] here [∫ʊə] season [sizn] vegetable [pebitəbil] very [ber1] 2 visit [bɪft] violin [baɪɔlɪn] face [p'os] victor [pɪtə] fall [p'ɔl] victory [biktjoi] family [p'emili] vacuum [beikjum] far [p'a] vest [beft] fast [pest] arrive [əraɪ] field [p'Iad] cover [kNb9] fine [paind] evening [IbnIn] finish [fini] every [Ebri] fish [f<sub>I</sub>[σ] heavy [hebi] flower [flavər] movie [mvd1]

never [nebə]

for [p'3]

over [o\u00f6b] then [den] eleven [[lebn] there [dea] drive [drai] they [dei] expensive [[kpensi]] this [d<sub>I</sub>f] give [gɪb] together [tsugedar] have [hg:] brother [bwadə] love [ləb] rather [wadə] move [mu] father [p'adə] of [ab] grandmother [grenmada] TV [tɪbɪ] grandfather [grenp'ada] five [p'aɪb] other [adə] live [raib] mother [madəl] twelve [thoselb] with [wid] thank [fæŋk] finish [p'Inis] thick [fik] fish [p'I] thin [fen] brush [pas] think [fink] sad [fæd] thumb [f<sub>\lambda</sub>m] safe [feif] thigh [fa<sub>I</sub>] same [fæm] thing [fin] sandwich [fendwitf] thousand [favznd] say [fel] both [pof] sea [fi] Jonathan [dznafan] sell [fɛl] month [manf] season [fizn] north [noof] seat [fit] south [favf] sea [fi] tooth [thjuf] sell [fɛl] mouth [mavf] send [fend] then [den] set [fet] that [det] sit [fɪt]

the [də]

so [foo]

3 soap [foop] soccer [fAka] sock [fɔk] face [preis] some [f<sub>\Lambda</sub>m] fall [pol] son  $[f_{\Lambda}n]$ family [pemili] sorry [fori] far [p'a:] sour [favə] farm [p'am] south [faʊs] fast [pest] subway [fabri] fat [p'æt] sun  $[f_{\Lambda}n]$ father [phadər] supper [fəpə] field [p'Iəld] school [fkul] find [p'aind] thirsty [fəfti] fine [p'ain] horse [hoof] finger [singe] miss [m<sub>I</sub>f] finish [p'inI] mouse [mavf] fish [p'If] nice [na<sub>I</sub>f] flag [blæk] niece [nif] flower [plawə] nurse [no:f] fly [plai] office [p'If] follow [p'olot] once [wəf] food [p'ud] pass [pæf] foot [p'ot] police [polif] for [p'ɔ] rice [waif] fox [p'aks] tennis [tj\u00fcn1f] free [p'ri] yes [jɛf] friend [p'rend] zebra [dʒiba] frog [prog] zoo [dzu] from [prom] zipper [vIpa] front [pront] Ms. [m<sub>I</sub>f] fruit [srut] he [k] full [pul]

fun [p'ən] violin [baɪəlɪn]
fun [psən] victor [bɪktər]
phone [sɨən] victory [bɪkt'ɔə]
fork [p'ɔək] vacuum [bɛɪkjum]

five [saɪb] van [\text{\text{En}}] fire fighter [p'aɪjə p'aɪdə] vest [best] four [p'ɔə] arrive [əlaɪb] five [p'a<sub>1</sub>b] cover [k<sub>\lambda</sub>bə] after [eftər] evening [Ibnin] afternoon [eftonun] every [Ebiri] beautiful [bjuripvl] heavy [hebi] before [bip'59] movie [rvb1] breakfast [breapast] never [nebəl] dolphin [dalpin] over [5:bəl] elephant [əlɛp'nt] eleven [Il&bn] telephone [telepon] drive [draib]

fifteen [pj\u00fctIn] expensive [iksp\u00e4n\u00b1b]

refrigerator [Ip'rectoreIdo] give [gɪbɨ] beef [bip] have [heb] half [hal⊖] love [lɔ:b] if [i<sub>\text{\tint{\text{\tin}\text{\texiel{\text{\tex{\ti}\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\texi}\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\texi}\text{\text{\text{\texi}\text{\text{\texi}\text{\text{\text{\texi}\text{\text{\text{\texi}\text{\texi}\text{\texi}\text{\texit{\texi}\text{\texi}\text{\texi}\text{\text{\texi}\text{\text{\texi}\</sub> move [mub] knife [naio] of [əbi] TV [t<sub>1</sub>b<sub>1</sub>] laugh [la:⊕] left [left] five [paib] nephew [nεpjσ] live [la<sub>1</sub>b] off [əe] twelve [treb] safe [seib] thank [s'ænk]

leaf [lip] thick [ʃɪk] vegetable [bɛətəbəl] thin [ʃɪn] very [bɛrɪ] think [ʃɪnkɨ] visit [bɪʤɪ] thirsty [s'əsɨtɪ]

thumb [00m] please [plis] thigh [oai] use [j\u03c7s] thing [s'In] thousand [s'avdand] cheese [tʃidə] thousand [t'avdən] both [bɔ:s] hello [glov] Jonathan [dra:st] month [mans] 4 north [nɔ:s] south [s'a\u038] face [p'eis] tooth [tus] fall [p'ɔl] mouth [ma:Θ] family [pemili] the [dər] far [p'a] there [dea] farm [p'am] this [ris] fast [p'est] together [togedə] fat [pæt] brother [bradə] father [p'adər] rather [rara] field [p'ɪəl] father [p'adə] find [p'aind] grandmother [grenmador] fine [p'ain] grandfather [grenp'ada] other [adəl] finger [pingor] finish [fini∫] mother [madəl] fish [p'I]] with [WIO] flag [p'leg] pass [pa<sub>θ</sub>] flower [plawə] zebra [ʤʊba] fly [pla<sub>I</sub>] zero [dzorow] follow [p'olo] as [es] food [pu] easy [idzi] foot [pot] excuse [iskjodz] for [pɔl] Ms. [mis] fox  $[p' \supset ks]$ nose [novdzv]

free [siri] nephew  $[n\epsilon pj\sigma]$  friend  $[pr\epsilon nd]$  safe [s'epp] frog [prag] leaf [lip] from [pram] woof [wup]

front [p'ant] vegetable [bechtəbl]

fruit [prot] very [bɛrɪ]

full [pol] visit [bɪdʒɪt]

fun [pan] violin [baɪɔlɪn]

phone [p'oʊn] victor [bɪkʧə]

fork [pɔ:k] victory [bɪtɔrɪ]

five [p'aɪb] vacuum [beɪkjum]

fire fighter [p'aijə p'ari] vest [besit] four [p'ɔə] arrive [əlaɪb] after [eptə] cover [kjabə] afternoon [epitənon] evening [Ibnin] beautiful [bjurip'v]] every [Ebəri] before [bip'59] heavy [hebi] breakfast [breprest] movie [mub]] dolphin [djalp'In] never [nebə] elephant [elepən] over [3bəl] telephone [tselepoun] eleven [[lebn] fifteen [pibitin] drive [diraib]

refrigerator [rip'retoreito] expensive [ispensis]

beef [bip] give [gɪb] half [halp] have [heb] if [Ip] love [lɔ:b] knife [naip] move [mub] of [əbə] laugh [læp] left [lepit] TV [tɪbɪ] life [laɪp] five [paib] off [ab] live [laɪbɨ]

twelve [tsσε:] dish [dis] thank [t'æŋ] sugar [sogə] thick [tɪŋk] zebra [ʤʊbɔl] thin [t'In] zero [dzoroz] think [t'ɪŋk] zoo [ʤu] thirsty [d'əsti] zipper [dʒʊpəl] thumb [d'əm] music [mjodzik] thigh [tai] season [s'Ickn] thing [t'In] Ms. [midzo] thousand [t'avczond] use [jucks] both [bɔ:s] thousand [t'aʊʤən] Jonathan [dzonatn] hair [keə] month [maos] north [nɔəs] 5 south [s'a\u00fcd] tooth [tus] mouth [maos] face [p'eis] that [det] fall [p'ol] the [də] far [p'a] then [den] farm [pam] there [dea] fast [pest] they [dei] field [prold] this [dis] finger [singer] together [togedər] finish [pini]] brother [badə] fish [pɪʃ] father [p'adə] flower [plawə] grandmother [grenmada] fly [plai] grandfather [grenp'adə] follow [palox] other [adə] food [pud] mother [mada] foot [p'ut] with [wik] free [tri]

friend [srgnd] evening [ɪbnɪ]

front [srʌnt] every [sbɨrɪ]

fruit [p'rut] movie [mʊbɪ]

fun [pɔn] never [nɛbə]

phone [p'oʊn] over [ʊɔbə]

fork [p'ɔːk] eleven [əlsbən]

five [p'aɪb] expensive [ɪspɛnʃɪ]

TV [tɪbɪ] fire fighter [p'aijə p'aidə] beautiful [bjurip'v]] five [faib] breakfast [brefrest] twelve [twel] thank [s'æŋ] elephant [alofrent] telephone [tselpoon] thick [s'ik] refrigerator [rip'rerəreirə] thin [t'In] beef [bis] think [s'ik] if [IS] thirsty [d'əsti] knife [nai] thumb [d'əm] laugh [laft] thigh [sai] left [lest] thing [s'In]

life [laɪp] thousand [s'aʊdʒəd]

nephew [nepj\overline{\sigma}] both [bo\overline{\sigma}s]

safe [s'eɪb] Jonathan [ʤɔnasan]

woof [wubs] month [mAns] vegetable [bestəbl] north [nɔ:s] very [beri] south [s'aus] visit [IcksIt] tooth [tus] victor [bikta] mouth [mavs] victory [bitori] that [det] vacuum [beikjum] the [d'a] vest [best] then [den] arrive [əlaɪ] there [dea]

cover [kjabər] they [dɛɪ]

this [dis] fine [p'aɪn] together [togeda] finger [pingo] brother [bradər] finish [pini]] rather [ladəl] flag [slæg] father [p'adər] flower [slawə] grandmother [grenmadəl] fly [sla<sub>I</sub>] grandfather [grenp'adəl] follow [p'aloo] other [a:dəl] food [sud] mother [madəl] foot [p'ot] with [wid] fox [paks] free [sri] sea [ʃi] seat [sit] friend [prend] zoo [dzu] frog [srog] as [es] from [srom] Ms. [mɪʤʊ] front [srent] use [jucks] fruit [prut] thousand [s'audind] full [s\u00fcl] fun [san] phone [sə:n] 6 fork [p'3:t] five [p'a<sub>I</sub>] four [p'50] face [seis] five [paib] fall [pəl] after [estə] family [whemili] far [p'a] afternoon [eftənon] beautiful [bjrIsl] farm [p'a:m] breakfast [bre:] fast [s'est] dolphin [dalpin] fat [pet] elephant [Elisant] father [padə] field [seild] telephone [telipən] fifteen [sistin] find [maind]

beef [bip] give [gɪb] half [hais] have [hept] if [IS] love [lɔ:g] move [mug] knife [naip] laugh [laps] of [a:g] left [lept] TV [t<sub>I</sub>b<sub>I</sub>] life [laɪs] five [saib] off [apsa] live [la<sub>1</sub>b]

nephew [nepjo] twelve [twelbg] safe [s'eis] thank [sæŋk] leaf [lips] thick [s<sub>I</sub>k] vegetable [bedsttəbl] thin [s<sub>I</sub>n] very [beri] think [sit] visit [IchIt] thirsty [dəsti] violin [baɪlɪn] thumb [sAm] victor [b1ktə] thigh [sai] victory [biktori] thing [sin]

vacuum [beikjum] thousand [savdzənd]

van [bæn] both [bɔs]

vest [nest] Jonathan [dzonasan]

month [məns] arrive [əlaɪd] cover [kAbə] north [noos] south [saws] evening [ibnin] every [Ebri] tooth [tus] heavy [hebi] mouth [maos] movie [mvb1] that [det] never [neba] the [də] over [5:ba] then [den] eleven [Il&bn] there [dea] drive [draib] they [del]

expensive [Ikstensd] this [dis]

together [t\u00fcged\u00e4] fast [p'est] brother [brav] father [p'adə] rather [brada] field [p'Iəld] find [p'aind] father [padə] grandmother [brenmada] fine [p'aɪn] grandfather [brenpa] finger [p'ingər] other [ad] fish [p'I[I] mother [mada] flag [p'ileg] with [wid] flower [pilawə] finish [pənɪ∫] fly [blai] follow [p'alo] sea [ʃi] seat [st] food [pud] sit [[It] foot [p'ot] zebra [dzibra] for [p'ɔ] zero [dzirov] fox [p'as] zoo [ෆ්ූහ] free [p'iri] cousin [kɔ:ʤn] friend [p'rend] as [Ed] frog [p'og] because [beky:] from [p'əm] nose [nɔ:ʤ] front [p'iont] please [kliz] fruit [prut] thousand [t'avdzn] full [p'u] fun [p'ən] phone [p'oon] 7 five [p'aib] fire fighter [p'aɪjə p'a] four [p'ɔ] face [p'eis] after [epi] fall [p'ɔl] beautiful [bjuripvl] family [p'eməli] far [p'a] before [bip'3] breakfast [bret] farm [p'am]

dolphin [doʊlpɪn] over [ɔbə]
elephant [ɛlɛpˈən] eleven [ɪlɛbɨn]
telephone [tɛlɛpən] drive [draɪ]

fifteen [p'ipit[in] expensive [ikt[ipen[i]

refrigerator [rɪtʃrɛʤərɛrə] give [gɪb] beef [bip] have [hab] half [halp] love [rəb] if [Ipi] move [mu] knife [naɪt] of [a:b] laugh [lep] TV [tɪbɪ] left [leptf] five [p'aɪb] life [la:b] live [raib] off [ap] twelve [tasl] thank [t'en] nephew [nepjv] safe [s'eip] thick [p'ik] leaf [lip] thin [p'In] woof [wup] think [p'ik] very [peri] thirsty [s'əsti] visit [bɪcht] thumb [əm] violin [barıbıt] thigh [s'a<sub>I</sub>] victor [bɪtə] thing [t'In] victory [bɪtʃərɪ] both [bas]

vacuum [beikjum] Jonathan [dzonapan]

vest [best] month [mans] north [nɔ:s] arrive [əlaɪb] cover [kəbə] south [s'a\u033] evening [lidri] tooth [tus] every [\varepsilon\text{b}\_{\text{\tin}\etx{\text{\texi}\text{\text{\texi}\text{\text{\text{\texi}\text{\texi}\text{\text{\texi}\text{\text{\text{\text{\text{\text{\texi}\text{\texi}\text{\texit{\te mouth [mavb] heavy [hab1] that [det] movie [m\dotsb1] the [də] never [lebə] then [den]

there [dæ] zebra [ʤɪbə] they [dei] zero [ʤʊro] this [dis] zoo [ʤu] brother [badəl] zipper [dʒɪpə] rather [radəl] cousin [kədʒɪn] father [p'adəl] season [sidsn] grandmother [grenmadəl] as [ed] grandfather [grenp'adəl] because [bik3:] other [p'adəl] close [kɨlɔ] mother [madəl] easy [Ictzi] with [wi] excuse [iskjdzo] ship [hip] Ms. [mɪʤi] finish [pɪnɪʃɪ] nose [noʊʤi] brush [birad] please [kl:] push [p'usi] use [judzi] say [czei] thousand [t'avdzən] cheese [tsucks] sea [ʃi] season [sidzən] seat [∫it] sea [ʃi] 8 sell [ʃɛl] sit [[It] face [sreis] sugar [sigə] fall [pol] mouse [mav] family [semili] nice [na<sub>I</sub>] far [pa] niece [ni] farm [siam] nurse [nəd] fast [p'est] office [apən] fat [st] once [wən] field [ʃɪəld] police [pəli] fine [wham] rice [raid] finger [pingəl]

fish [pɪʃ] laugh [la⊖] flag [freg] life [la<sub>I</sub>⊖] fly [srai] leaf [lie] follow [solot] safe [s'ei\text{\text{\$\Theta\$}}] food [whud] nephew [nεθjσ] for [p'ɔə] very [bgr1] fox [p'om] visit [wickit] free [sri] violin [baijolin] friend [srend] victor [biktəl] frog [srok] victory [bitori] from [⊖rom] vacuum [beikjum] front [sr<sub>\Lamb</sub>mp] van [wen]

 $\begin{array}{lll} & & & van \ [w\epsilon n] \\ & & van \ [w\epsilon n] \\ & & vest \ [b\epsilon sit] \\ & full \ [pvl] & arrive \ [\partial waI] \\ & fun \ [\Theta \wedge n] & cover \ [k \wedge b \partial l] \\ & phone \ [povn] & evening \ [IbinII] \\ \end{array}$ 

fork [Θ2r] every [εbɨ]
five [ΘaIb] heavy [hεbI]
fire fighter [p'aɪjə Θarə] movie [mzbI]
four [p2] never [nεbəl]
five [Θa] over [2bəl]
beautiful [p'juripʊl] eleven [Ilεbɨn]
before [IΘ2] drive [draɪ]

breakfast [breari] expensive [Isawe[i]]

telephone [ $t\epsilon l_{I\ThetaOOn}$ ] give [gi] fifteen [ $\epsilon \Theta tI$ ] have [haɪ] refrigerator [ $\theta I \epsilon \Theta O tI$ ] love [lɔ:] beef [bi $\theta$ ] move [mu] half [hal $\theta$ ] of [ $\theta O tI$ ] if [ $\theta O tI$ ] TV [ $\theta O tI$ ] knife [naI $\theta$ ] five [dwaI]

twelve [tsolbi] set [\text] think [whink] so [θoΩ] thirsty [əsti] soap [θoʊ] Jonathan [chonae1] sock [⊕a:] then [den] some [ $\Theta \Lambda m$ ] that [det] son  $[\Theta V u]$ the [la] song [esq] then [den] sour [⊖avər] there [le] sorry [HOT] south [⊖avft] they [lei] this [mio] subway [s'əʊwɪ] summer [ $\Theta \wedge m \partial r$ ] together [t[vgeor] brother [braidi] sun [\text{\text{\text{\text{O}}}\text{\text{N}}] rather [wadəl] supper [⊕\u00f6p\u00e4r] father [p'adəl] school [okul] grandmother [gwemadəl] grass [bra:⊕] horse [ha:f] grandfather [brenmadəl] other [adəl] miss [mio]  $mother\ [mad\partial l]$ mouse [mavo] with [WIO] nice [naio] finish [wi<sub>θ</sub>] niece [ni<sub>θ</sub>] fish [whio] nurse [nə:\text{\text{\text{n}}}] dish [dIO] office [pio] brush [brand] once [mə:\text{\tin}\text{\ti}\}\text{\te}\tint{\text{\text{\text{\text{\texi}\text{\text{\texi}\text{\text{\texi}\text{\text{\text{\texi}\text{\\titi}\\\ \ti}\titt{\tex{\texi}\text{\text{\texi}\text{\text{\texi}\text{\text{\texi}\tex pass [pæ⊖] sandwich [⊕EndwI⊕] police [pri⊕] say [eg] rice [wais] sea [ei] tennis [tenio] sell [fɛl] yes [ref] season [oizo] zebra [wʊəl] send [ $\Theta$ En] zero [dzvəl]

zoo [⊖u] four [p'o] music [mjvdzvk] afternoon [Epitonun] easy [idz] beautiful [bjurip\u00f6l] excuse [Iskof] before [bip'o] breakfast [brewəsit] Ms. [mɪf] nose [nof] knife [naɪpɨ] life [laɪp] thousand [oavris] cheese [t[if]] nephew [nepi] hair [kwe:] safe [s'æpɨ] leaf [lipi] woof [wup] 9 vegetable [besitəbl] very [ber1] visit [bicksit] family [pemili] violin [baɪɔlɪn] far [p'a:] victor [bɪtər] field [Iəl] victory [bɪtərɪ] find [p'amd] vacuum [beikjum] finger [mgər] vest [best] finish [Iles] arrive [əlaɪb] food [p'ut] cover [k<sub>V</sub>b<sub>9</sub>] fox [p'a:] every [Ebəri] free [siri] expensive [Ispe [Iv] friend [p'rend] have [hevi] from [prom] front [p'rAnt] live [laɪbɨ] thank [t'enk] fruit [p'orut] thick [sik] full [p'\u00fcl] thin [[In] fun [p'\Lambda n] thumb [siom] phone [p'oon] fork [p'ɔ:ki] thigh [sai] thing [sin] five [p'a<sub>1</sub>b]

Jonathan [dznasən] finger [oingol] south [s'a\u038] finish [whini] tooth [tfus] fish [whisi] flag [bleg] mouth [maos] flower [pilawəl] that [det] then [den] fly [ila] food [whud] they [del] this [dis] foot [p'ut] rather [warə] free [siriph] fruit [whut] father [fadə] brush [brnsi] fun [p'\Lambda n] wash [wasi] phone [p'oon] English [mglesi] after [epitə] afternoon[Estonun] sea [ʃi] season [sidzən] beef [bi<sub>θ</sub>] seat [siti] half [hal⊖] see [[i] if [IO] grass [gla:z] knife [naɪpɨ] excuse [skizi] life [laɪpɨ] Ms. [mis] safe [sei\theta] nose [novast] woof [wupi] victor [pikto] please [pɨlidʒɨ] use [jucksi] victory [piktori] thousand [sit'andi] vacuum [beikjum] cheeese [tʃiʤɪ] arrive [araif] hair [keə] evening [[birin]] every [Ebri] heavy [hebi] 10 movie [mvb1] eleven [[lebən] field [wɪəd] drive [drasbi]

expensive [Isten sid] English [mgilisi] safe [seɪti] give [gɪf] have [hep] song [song] love [lɔ:f] sour [so] move [mu] office [3fi] of [3:f] rice [lass] TV [tɪbɪ] tennis [tenisi] five [faɪbɨ] zebra [dzodwa] live [raɪbɨ] zero [droʊ] twelve [toslbi] zoo [dju] thank [t'æŋkɨ] season [sidzən] thick [fik] Ms. [mids] thin [fen] excuse [sikjodz] think [fink] nose [nowdzi] the [də] please [pilick] they [dei] use [judzi] together [togedəl] thousand [fait] brother [brada] cheese [tficts] rather [radəl] father [fadəl] grandmother [grenmadəl] grandfather [grenp'adəl] other [adəl] mother [madəl] with [wit] finish [∫InI∫I] fish [f<sub>I</sub>⊖] dish [dI I]brush [brasi] push [pʊʃi] wash [lasi]

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