Appendix A. Summary of /r/ acquisition in monolingual German

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

/r/ clusters /r/ onsets

Age range Total na %Targetb %Almostc Total na %Targetb %Almostc \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Britta**

1;9 36 58 11 25 60 0

2;0 20 95 0 25 72 8

2;3 52 90 0 36 92 3

**Marion**

2;0 14 0 0 22 0 0

2;3 18 61 6 49 33 43

2;6 35 91 9 --d -- --

2;9 35 97 3 41 93 5

**Thomas**

1;9 33 58 12 16 56 0

2;0 83 93 2 33 79 12

2;3 37 81 5 24 100 0

2;6 72 97 1 47 87 13

**Johannes**

1;9 69 16 6 86 15 39

2;0 93 73 2 123 71 17

2;3 85 64 4 8 50 13

2;6 66 62 8 52 81 2

2;9 20 90 5 38 87 11

Appendix A. continued

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

/r/ clusters /r/ onsets

Age range Total n %Target %Almost Total n %Target %Almost \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Bernd**

2;0 19 0 0 16 6 25

2;3 53 2 0 54 0 2

2;6 26 19 0 38 42 5

2;9 46 67 17 34 71 24

3;0 39 31 62 --d -- --

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

a. Total n= total number of target /r/ clusters or /r/ onsets

b. %Target = percentage of productions transcribed as [ʀ] or [ʁ].

c. %Almost = percentage of productions transcribed as [ɣ], [x], [χ] or a non-target /r/.

d. Missing gaps in the transcriptions

Appendix B. Summary of /r/ acquisition in bilingual German

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

/r/ clusters /r/ onsets

Age range Total na %Targetb %Almostc Total na %Targetb %Almostc \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Jens**

2;0 4 0 0 --d -- --

2;3 7 0 29 9 22 56

2;6 19 5 47 21 10 67

2;9 33 0 61 9 0 89

3;0 27 15 74 14 21 43

**Simon**

2;0 12 0 0 9 11 0

2;3 40 0 33 16 0 69

2;6 25 0 36 14 0 79

2;9 22 0 86 18 6 89

3;0 44 2 84 10 0 100

3;3 7 100 0 13 46 31

**Nils**

1;9 10 0 10 58 0 14

2;0 17 0 6 29 21 55

2;3 49 0 16 30 7 60

2;6 56 0 57 30 0 90

Appendix B. continued

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

/r/ clusters /r/ onsets

Age range Total n %Target %Almost Total n %Target %Almost \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2;9 33 0 76 28 0 93

3;0 38 21 53 24 21 79

3;3 52 4 85 38 74 24

**Manuel**

1;9 7 0 71 6 0 100

2;0 7 0 57 33 0 88

2;3 10 20 50 6 33 67

2;6 12 17 58 12 0 92

2;9 42 0 95 36 11 86

3;0 36 53 28 38 29 66

3;3 36 47 36 60 50 47

a. Total n= total number of target /r/ clusters or /r/ onsets

b. %Target = percentage of productions transcribed as [ʀ] or [ʁ].

c. %Almost = percentage of productions transcribed as [ɣ], [x], [χ] or a non-target /r/.

d. Missing gaps in the transcriptions

Appendix C. Summary of /r/ acquisition (alveolar tap) in monolingual Spanish

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

/r/ clusters medial tap

Age range Total na %Targetb %Almostc Total na %Targetb %Almostc \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**José**

2;0 90 0 2 238 8 14

2;3 26 0 0 44 0 16

2;6 32 0 0 75 5 11

**María**

2;0 13 0 8 88 27 8

2;3 21 0 0 68 43 7

2;6 35 0 9 79 30 18

**Miguel**

2;0 11 0 9 60 0 0

2;3 21 5 5 88 19 10

2;6 53 2 9 126 21 24

2;9 13 0 0 30 53 3

3;0 40 8 10 63 63 16

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

a. Total n= total number of target /r/ clusters or medial taps.

b. %Target = percentage of productions transcribed as [ɾ].

c. %Almost = percentage of productions transcribed as non-target /r/ (e.g., [r, ʁ, ʀ, ɹ]).

Appendix D. Summary of /r/ acquisition (alveolar tap) in bilingual Spanish

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

/r/ clusters medial tap

Age range Total na %Targetb %Almostc Total na %Targetb %Almostc \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Jens**

2;0 20 0 0 19 26 11

2;3 41 0 0 34 3 9

2;6 15 0 0 45 4 2

2;9 58 3 3 73 19 0

3;0 58 45 3 58 9 0

3;3 --d -- -- -- -- --

3;6 38 61 13 47 17 4

**Simon**

2;0 48 2 0 36 6 3

2;3 71 17 3 155 14 3

2;6 53 42 2 102 59 5

2;9 51 41 2 80 83 1

3;0 31 52 0 48 96 0

3;3 53 77 15 110 91 6

3;6 40 93 3 81 77 7

**Nils**

2;0 61 0 0 36 8 0

2;3 28 0 4 31 42 0

2;6 49 29 0 43 74 0

Appendix D. Continued \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

/r/ clusters medial tap

Age range Total n %Target %Almost Total n %Target %Almost \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2;9 13 85 0 17 71 12

3;0 25 88 4 13 100 0

3;3 8 75 0 10 80 0

**Manuel**

2;0 50 0 4 38 74 0

2;3 35 0 9 111 73 12

2;6 29 21 14 110 82 5

2;9 30 43 3 109 94 1

3;0 72 44 7 109 79 1

3;3 39 74 3 --d -- --

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

a. Total n= total number of target /r/ clusters or medial taps.

b. %Target = percentage of productions transcribed as [ɾ].

c. %Almost = percentage of productions transcribed as non-target /r/ (e.g., [r, ʁ, ʀ, ɹ]).

d. Missing gaps in the transcriptions

Appendix E. Summary of /r/ acquisition (alveolar trill) in monolingual Spanish

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

/r/ onsets medial trill

Age range Total na %Targetb %Almostc Total na %Targetb %Almostc \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**José**

2;0 33 6 12 31 0 10

2;3 5 0 0 6 0 0

2;6 7 14 0 2 0 0

**María**

2;0 6 0 0 3 0 33

2;3 15 0 20 3 0 0

2;6 7 0 14 11 9 9

**Miguel**

2;0 8 0 0 4 0 0

2;3 9 0 22 5 0 0

2;6 14 14 14 15 0 7

2;9 7 0 14 1 0 0

3;0 8 63 37 30 57 40

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

a. Total n= total number of target /r/ onsets or medial trills.

b. %Target = percentage of productions transcribed as [r].

c. %Almost = percentage of productions transcribed as non-target /r/ (e.g., [ɾ, ʁ, ʀ, ɹ]).

Appendix F. Summary of /r/ acquisition (alveolar trill) in bilingual Spanish

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

/r/ onsets medial trill

Age range Total na %Targetb %Almostc Total na %Targetb %Almostc \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Jens**

2;0 20 0 10 6 0 0

2;3 16 0 0 8 0 0

2;6 8 0 13 4 0 0

2;9 33 0 3 7 14 0

3;0 8 0 13 13 0 0

3;3 --d -- -- -- -- --

3;6 16 50 44 3 67 33

**Simon**

2;0 8 0 0 6 0 0

2;3 36 0 53 17 0 35

2;6 26 4 65 10 0 80

2;9 13 0 85 18 33 61

3;0 8 0 100 3 0 100

3;3 5 20 80 14 36 64

3;6 24 25 67 7 57 43

**Nils**

2;0 17 0 6 15 0 13

2;3 10 0 10 10 0 20

Appendix F. Continued

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

/r/ onsets medial trill

Age range Total n %Target %Almost Total n %Target %Almost \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2;6 19 5 63 9 0 100

2;9 6 0 50 4 100 0

3;0 --d -- -- 6 0 83

3;3 1 0 100 4 25 75

**Manuel**

2;0 9 0 22 9 22 44

2;3 21 19 48 22 14 59

2;6 53 8 62 10 10 40

2;9 23 4 43 7 14 57

3;0 32 13 38 13 0 39

3;3 10 0 70 7 29 71

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

a. Total n= total number of target /r/ onsets or medial trills.

b. %Target = percentage of productions transcribed as [r].

c. %Almost = percentage of productions transcribed as non-target /r/ (e.g., [ɾ, ʁ, ʀ, ɹ]).

d. Missing gaps in the transcriptions