

ACQUISITION OF RVCs
IN WRITTEN CHINESE
BY DEAF CHILDREN IN
HONG KONG

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Resultative2023 Workshop

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OVERVIEW OF THE STUDY

- Background Knowledge, definition of resultatives
- Resultative Verb Compounds (RVC) in Mandarin Chinese
 - Completive RVC
 - State RVC
 - Directional RVC
- Acquisition of RVC
- Research Objectives
 - Participants and Groups
 - Methodology
- Results
- V1 and V2 in three types of RVCs
 - Overall performance
- AoA and the written language production
 - SL input
 - Written Chinese input
 - Cantonese input
- Error type
- Discussion and Conclusion

RESULTATIVES

A *cause* inevitably leads to a *result* – that’s the ‘resultatives’, as composed of two distinct parts that associate two predicates, one describing the essence of the result and another denoting in what way the result is revealed.

Li & Thompson (1981, 1989) defined RVC as a lexical rule that combines two verbs, V1 as the *causing activity* and V2 as the *result*.

A complex event in Mandarin Chinese as “X jī-suì (擊碎) LE Y (X *hit-broke* PERF-le Y)” must contain a causing event ‘X hit Y’ (X jī Y) of V1, and a result subevent of ‘Y being broken’ (Y-suì) represented by V2.

THREE TYPES OF RVCS IN MANDARIN

(CR. LI & THOMPSON)

○ *Completive RVC*

○ The V2 expressed a completive phase of the **V1 action**, such action carried out by V2 as a **result**. The V2 might include the following characters: jiàn見, dào到, hǎo好, chéng成, wán完. A completion and culmination but no internal change.

(1) Tā de qián yòng-wán LE. (他的錢用完了。)

3sg DE money use-finish LE (perfective aspect marker). (Li & Thompson 1989, p56)

(2) Wǒ kàn-jiàn nǐ LE. (我看見你了。)

I see-arrive¹ you LE (perfective aspect marker).

1. The 'dào' or 'jiàn' as a resultative particle (Thompson termed it as RE) means the 'arrive' of the action in V1, implied the meaning of 'available'. In the word 'kàn-jiàn' or 'kàn-dào', meaning the action of look (kàn) arrived in a phase of culmination/completion.

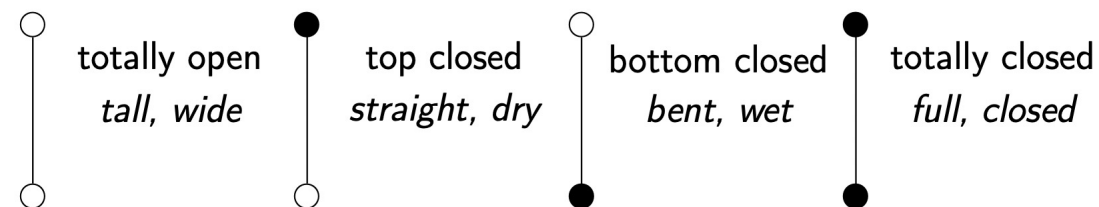
THREE TYPES OF RVCs IN MANDARIN

(CR. LI & THOMPSON)

○ *State (or Cause) RVC*

- The V2 indicates the *change of state* caused by the V1. V2 can be categorized into three sub-types by its scalar nature (cr. Kennedy & McNally 2005).

- **a.** V2 – atelic state, similar to gradable adjectival particle (bottom, beginning closed): **suō-duǎn** 縮短 (shrink-shorten), **wā-kuān** 挖寬 (dig-widen).
- **b.** V2 – top closed stable state, default end point: **cā-gān** 擦乾 (wipe-dry)
- **c.** V2 – telic. both of the top and bottom are closed. denoting an instantiate achieved event, has clear starting-point and end-point.
 - **dǎ-pò** 打破 (hit-broke),



Kennedy & McNally 2005; cr. Kuhn 2017

- a** (3) tā **wā-kuān** LE nà tiáo lù. (他挖寬了那條路。)
3sg dig-widen LE (perf) that CL (tiáo) road.
- b** (4) wǒ **cā-gān** LE chuāng hu. (我擦乾了窗戶。)
I wipe-dry LE (perf) window.
- c** (5) tā **dǎ-pò** LE huā-píng. (他打破了花瓶。)
3sg hit-broke LE (perf) flower-vase.

THREE TYPES OF RVCS IN MANDARIN (CR. LI & THOMPSON)

○ *Directional RVC*

- V2 indicates directional information, meaning a change of orientation, posture, or direction.
- The characters inherently contained directional information: 上shàng, 下xià, 進jìn, 出chū, 入rù, 落luò, etc.

(6) tā pǎo-chū LE xué-xiào. (他跑出了學校。)
3sg run-out LE (perf) school.

(7) xiǎo gǒu diào-xià LE xuán-yá. (小狗掉下了懸崖。)
Little-dog fall-down LE (perf) cliff.

RVC ACQUISITION STUDIES

- Mandarin RVC's compositionality and event structure were not fully acquired before 3-year-old (Xu, 2006).
- In spoken Chinese, Erbaugh (1982) and Chen (2005) reported that 2-year-old had difficulty on V1 of RVCs.
- RVC production among children is input-driven (Xu 2006, Chen 2008), whereas some scholars argue that RVC formation rules occur before 2-year-old (Xiao et al., 2006).
- According to Deng (2010, 2019), an earliest production of spoken Chinese RVC among hearing (Mandarin L1) children is 1;7.
 - The quantity of Completive and Directional production are larger than the State-RVCs before 2;6.
 - Experimental data of 2-4 years old children shows that acquiring the RVCs at first relied heavily on V1 for interpreting V2 in **directional RVCs**; for the **result-state RVCs**, children relied on V2 to process and produce the whole structure.
 - State RVC: V2 is more salient than V1, thus acquired earlier.
 - Directional RVC: V1 is more prominent than V2 and emerged first.

DEAF CHILDREN'S ACQUISITION

- Resultative constructions (RC) have attracted much research in spoken language acquisition by hearing children (Li 2000, Deng 2010).
- *How about deaf children?*
 - Wolbers et.al., (2013), focused on deaf writer's application of ASL knowledge to English.
 - The findings suggested that students with the greatest language proficiencies (either English or ASL with developed metalinguistic knowledge) did not exhibit ASL features in their writing.
 - With opportunities that D/HH (deaf / hard of hearing) kids received sufficient bimodal bilingual (sign language with spoken language) input, and with developed metalinguistic knowledge, will succeed in writing.
- Early bimodal bilingual input supports the development of meta-linguistic awareness and cognition of event structures (Hoffmeister, 2000; Morgan, 2005; Rathmann et al. 2007).
- How would the deaf and hard of hearing (D/HH) children behave in the production of written Chinese RVCs?

HONG KONG SIGN LANGUAGE (HKSL) AND BIMODAL BILINGUALISM

- HKSL is a natural human language, which used by deaf communities in Hong Kong.
- Sign-bilingual co-enrolment programme (SLCO, in a bimodal bilingual way) provide opportunities for children to receive the bimodal bilingual education in an accessible way.
- Currently there is only one deaf school in Hong Kong.
- The co-enrolment programme provide bimodal bilingual education setting in the mainstream school.
 - Deaf teacher – teaching via HKSL.
 - Hearing teacher – teaching via spoken language (English/Cantonese/written Chinese)
 - They are teaching partners but not interpreters for each other.
 - Both hearing and deaf students receive the SpL and SL input simultaneously.
 - Hearing kids also acquire HKSL, enabling them to communicate with their deaf peers.



<http://cslds.org/slco/en/index.php>
Sign Bilingualism & Co-enrolment
Education Programme.

HKSL



The boy climbing to the tree
男孩爬上樹。

- The **SOV (subject + object + verb)** order is common in HKSL.
- See the production from a native HKSL signer (8) for the scene from the *Frog, Where Are You* (Mayer, 1969), page 11, describing a boy climbing to the tree branch (figure.1) and searching the hole.

(8) TREE-BRANCH CLSASS: be located //

_____nms: durative_____

BOY CL_{person:boy} + CLIMB_{tree-branch_loc}: climbing upwards to the tree branch

Loc_TREE LOOK: look around (search)

- The object is introduced in the first place.
- 🖐️ Then the human classifier.

CKW-Dp5 Deaf P5 他就樹枝爬上了看一看，

CANTONESE DOMINANT ENVIRONMENT

- Hong Kong, involves Cantonese, Mandarin, written Chinese, English and some many other languages in the linguistic environment.
- All of our deaf participants have CI (cochlear implants) or HA (hearing aids) to help with their hearing.
- Postoperative hearing status varies by situation.
 - **Written Chinese was instructed via Cantonese (and complemented with HKSL in the co-enrolment programme), some cross-linguistic errors are expected since the language distinctions exist.**
- For example: (transitivity differences, occurred on V1 of RVC)
 - (9a) deu6 go3 bo1 bei2 ngo5. (掉個波俾我。)
 - (9b) reng1 ge4 qiu2 gei3 wo3. (扔個球給我。)
 - Throw/Pass the/a(Classifier) ball give-to/to me.
- 掉 –in Chinese (meaning ‘fall’), however, in Cantonese, meaning ‘throw’.

OUR SUBJECTS AND RESEARCH OBJECTIVES

- In Hong Kong, Mandarin are not L1 for both (most of the) hearing and deaf students; the written Chinese used in educational settings has the same grammar as Mandarin.
- Most of the deaf kids using sign language as L1, however, some of them are late learners of both written Chinese/Cantonese and HKSL.
- Current study will explore the production and acquisition of RVC in written Chinese from D/HH groups compare with their hearing peers.
- We are expecting our study sheds light on the education and the development of literacy skills for both deaf and hearing children under the bimodal bilingual education programme.

PARTICIPANTS AND BIO-DATA

- ❑ *Adults*: 8 (the baseline production)
- ❑ *Deaf children group*: 27; (in 2014) 24
- ❑ *Hearing children group*: 27; (Year 2014) 20

- ❑ For the deaf group, our research centre documented their biodata and background information for further analysis, including their chronologic age, the age of HKSL input, the onset age of spoken language acquisition, the age of written Chinese input, and the length of exposure to HKSL.

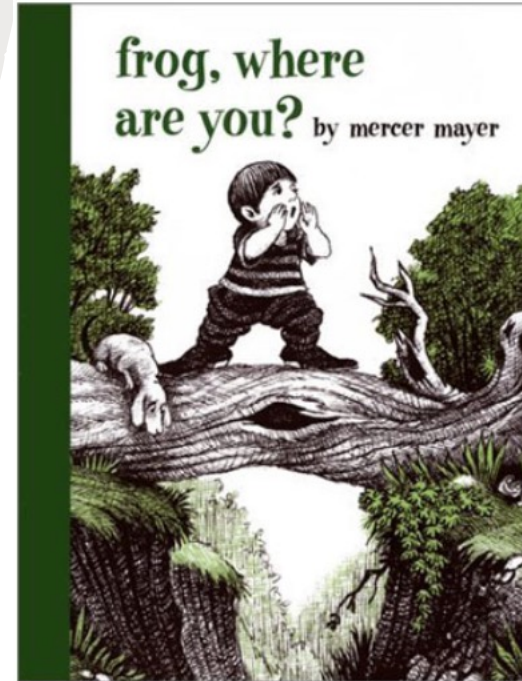
RESEARCH QUESTIONS

- What is the written Chinese RVC production pattern for deaf and hearing groups? Would it be similar to the spoken Mandarin RVC acquisition pattern (cr. Deng 2010, 2019), since our participants also received the written Chinese input at an early age?
- How does the Cantonese environment and the early sign language input affect the production?
- Which type of RVC is more error prone in this data pool and why? What are the main error types for hearing and deaf groups? If the child failed to produce the target construction, what would they do instead?

METHODOLOGY AND STIMULI

The stimuli

- Mayer's (1969) storybook 'Frog, Where Are You'.
- Participants read the book page by page and then wrote down the story in Chinese.
- All the context-sensitive scenes will be extracted.
- → In total **52 RVC-context sensitive templates** were extracted from adults' production.
 - State RVC – 6
 - Directional RVC – 27
 - Completive RVC – 19



V1	V2	ty1	ty2	Template description	ci	su	
ditransitive	/	intransitive	ergath	1	an active action	ai	B
intransitive	unerg	intransitive	ergath	2	an active action	ao	F
transitive	/	intransitive	unacc	3	an active action	ac	B
transitive	/	intransitive	unacc	4	an active action	ac	B
transitive	/	/	/partic	5	an active action	ac	B
transitive	/	intransitive	ergath	6	an active action	ai	P
transitive	/	/	/partic	7	an active action	af	P
transitive	/	intransitive	unacc	8	an active action	af	B
intransitive	unacc	intransitive	ergath	9	a passive/relevant action	pd	
intransitive	unerg	intransitive	ergath	10	an active action	ao	P
intransitive	unerg	intransitive	ergath	11	an active action	ao	B
transitive	/	/	/partic	12	an active action	ac	B
transitive	/	intransitive	unacc	13	an active action	ac	B
transitive	/	intransitive	unacc	14	an active action	ac	B
transitive	/	intransitive	unacc	15	an active action	ac	B
transitive	/	intransitive	unacc	16	an active action	ac	B
transitive	/	intransitive	unerg	17	an active action	am	P
transitive	/	intransitive	ergath	18	an active action	ao	V
transitive	/	intransitive	unacc	19	an active action	ac	B
intransitive	unerg	intransitive	ergath	20	an active action	ao	H
transitive	possib	intransitive	ergath	21	an active action	ad	P
intransitive	unerg	intransitive	ergath	22	an active action	ao	O
transitive	/	intransitive	unacc	23	a passive mental state	pmc	gc
intransitive	unacc	intransitive	ergath	24	a passive/relevant action	pd	
intransitive	unerg	intransitive	unacc	25	an active action	ac	B
transitive	/	intransitive	unacc	26	an active action	ac	B
transitive	/	intransitive	ergath	27	an active action	ac	B
transitive	/	intransitive	unacc	28	an active action	ac	B
transitive	/	intransitive	unacc	29	an active action	ac	B
transitive	/	intransitive	unerg	30	an active action	am	D
transitive	/	intransitive	unacc	31	an active action	ac	D
intransitive	unerg	intransitive	unacc	32	an active action	ac	D
transitive	/	intransitive	ergath	33	an active action	ai	D
transitive	/	intransitive	unacc	34	an active action	af	D
intransitive	unacc	intransitive	ergath	35	a passive/relevant action	pi	
transitive	/	intransitive	unacc	36	an active action	ac	B
transitive	/	intransitive	unacc	37	an active action	ac	B
transitive	/	intransitive	unacc	38	an active action	ac	B
transitive	/	intransitive	unacc	39	an active action	ac	B
transitive	/	intransitive	unacc	40	an active action	ac	B
transitive	/	intransitive	unacc	41	an active action	ac	B

21	11-D	17	惹怒	惹	怒	了	3	state RVC
22	11-D	17	捅破	捅	破	n/a	1	state RVC
23	11-D	17	*飛出	飛	出	了/飛	2	directional RVC-like
24	11-D	18	*撞下	掉/撞/撞下	了/飛	3	directional RVC-like	
25	12-D	19	飛出	飛	出	了/飛	2	directional RVC
26	12-D	20	嚇到	嚇	到/得	n/a	2	completive RVC
27	12-D	21	*摔下	摔	下	了/飛	1	directional RVC-like
28	13-B	22	跑到	跑/趕	到	了	3	completive RVC
29	13-B	23	看到	看	到	n/a	1	completive RVC
30	14-C	24	爬上	爬	上	了	3	directional RVC
31	14-C	24	爬到	爬	到	n/a	1	completive RVC
32	14-C	25	抓住	抓	住	n/a	2	completive RVC
33	15-A	26	頂起	升/頂	起	了/飛	2	directional RVC
34	15-A	26	惹怒	惹	怒	了	1	state RVC
35	16-C	27	抬起	抬/頂	起	n/a	2	directional RVC
36	16-C	28	跑到	跑	到	了	2	completive RVC
37	17-A	29	扔進	扔/摔/砸	進/入/下	了	6	directional RVC
38	17-A	29	拋到	拋	到	n/a	1	completive RVC
39	18-A	30	掉進	掉/落	進	了	3	directional RVC
40	19-A	31	聽到	聽	到	了	4	completive RVC
41	19-A	32	坐起	坐	起	了/飛	2	directional RVC
42	21-B	33	爬上	爬	上/近/過	了	3	directional RVC
43	22-A	33	翻過	翻	過	n/a	1	directional RVC
44	22-A	34	看見	看	見/到	了	2	completive RVC
45	23-C	35	翻向	翻	向	n/a	1	directional RVC
46	23-C	36	看見	看	見/到	了	2	completive RVC
47	24-B	37	帶回	帶	回	n/a	1	directional RVC
48	24-B	38	抱起	抱	起	n/a	1	directional RVC

CODING CRITERIA

<i>Grading criteria</i>	
<i>scoring slots</i>	5 points:V1,V2,V1+V2, grammaticality, aspect(markers)
<i>V1</i>	Correct form V1 (morphologically, meaning, case, etc), 1 point
<i>V2</i>	Correct form V2 (morphologically, meaning, case, etc), 1 point
<i>V1+V2</i>	Correct compounding of V1+V2, 1 point.
<i>Grammatical</i>	The sentence is grammatically correct, 1 point.
<i>Aspect</i>	The aspect marker is accurately used.

- According to the adults' production, the most frequently produced RVC form will be the target template.
- The above table shown our grading criteria for encoding the children's (both hearing and D/HH) output.

ID	Hearing status	Grade	sentence	page	RVC	RVC type	Target scene number	Target token	Target RVC type	V1	V2	V1+V2	RVC Points	Asp marker	Grammaticality	Total points	Code	Subject	Object 1	Object 2	Remarks
PTY-Dp4	Deaf	P4	杯子被打碎了,	7	打碎	state RVC	15	打碎	state RVC	1	1	1	3	1	1	5	adis	P	J	/	/
LTH_Dp3	Deaf	P3	隻狗不小心的青蛙的瓶打破了.	7	打破	state RVC	15	打碎	state RVC	1	1	1	3	1	0	4	adis	P	J	/	Can

RESULTS — V1

- Overall V1 production, deaf group is slightly weaker in producing the target V1.
- Deaf group has more uncertainty regarding the choosing of V1 → Produced more 0.5-partially correct attempts than the hearing group.

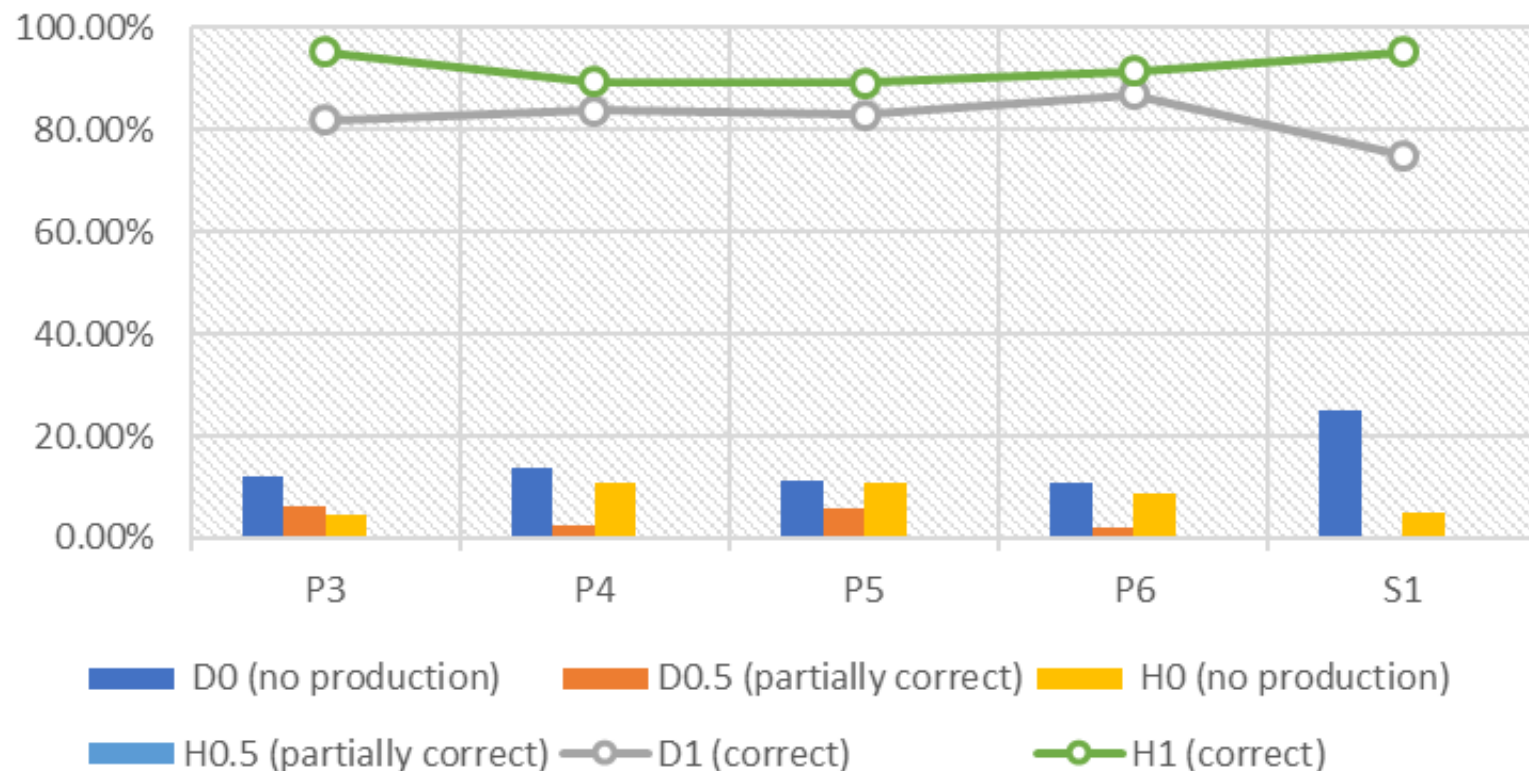
D → for Deaf group

H → For Hearing group

Deaf	P3	突然一隻鹿起來把小明放在河裏。	17:A	放 (put)
Deaf	P3	弟弟和小狗一起腳山，	14:C	腳 (? Walk
Deaf	P4	鹿想他跌湖邊裏，	17:A	跌 (fell)
Deaf	P4	他坐樹洞看沒有青蛙，	21:B	坐 (sit)
Deaf	P5	將他和牠跌在池塘上，	17:A	跌 (fell)
Deaf	P5	他們跌倒了，倒了湖水，	18:A	倒 (fell)
Deaf	P6	然後摔倒 [% incorrect writing of 摔] 了	17:A	摔倒 (fell d

V1 attempts	DP3	DP4	DP5	DP6	DS1	HP3	HP4	HP5	HP6	HS1
0 (no production)	4	11	4	5	22	2	5	4	3	3
0.5 (partially correct)	2	2	2	1						
1 (correct)	27	67	29	40	66	40	42	33	32	59

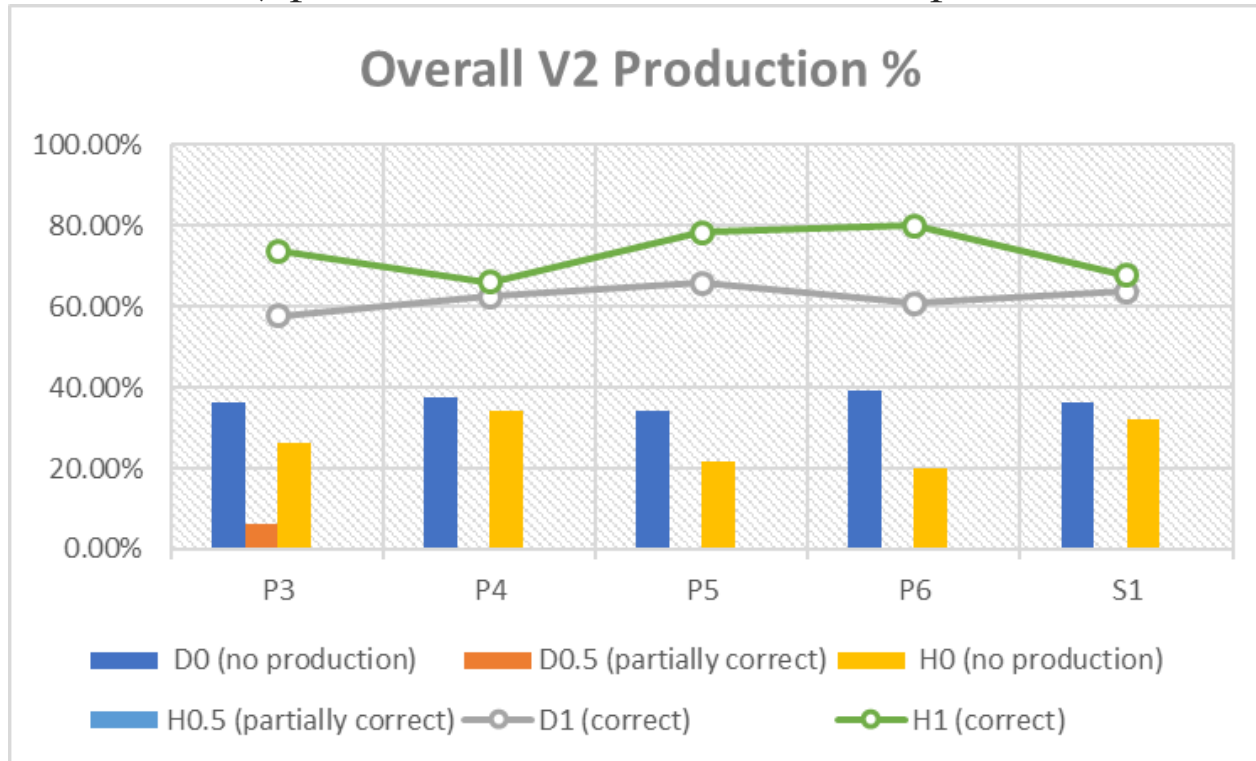
Overall V1 Production %



V1 attempts	No production	Partially correct	Target production
Deaf Group	12.12%	6.06%	81.82%
Hearing Group	13.75%	2.50%	83.75%

RESULTS — V2

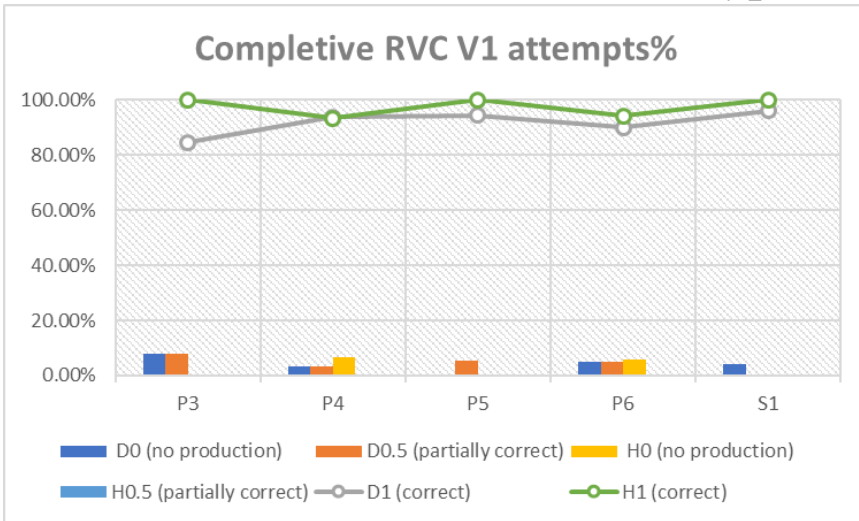
- Overall V2 production (percentage) → Deaf group is weaker in producing the target V2, seems V2(the results) poses more difficulties on their production.



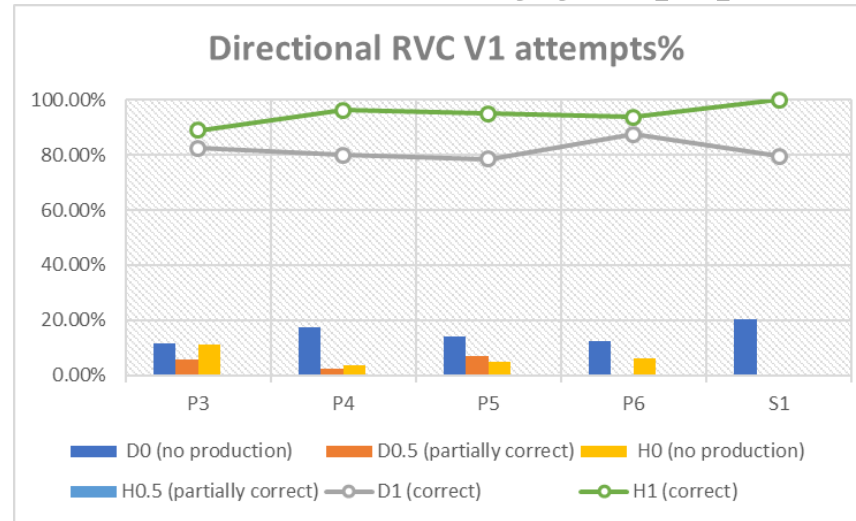
<i>V2 attempts</i>	<i>No production</i>	<i>Partially correct</i>	<i>Target production</i>
Deaf Group	36.73%	1.21%	62.06%
Hearing Group	26.82%	0%	73.18%

RESULTS—V1 (IN 3 TYPES)

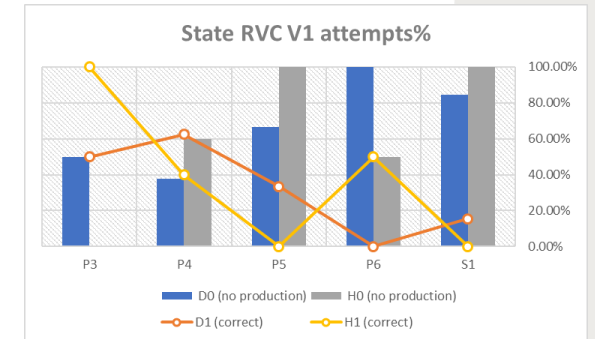
- In terms of different RVC types, how the deaf and hearing groups perform in producing V1 & V2?



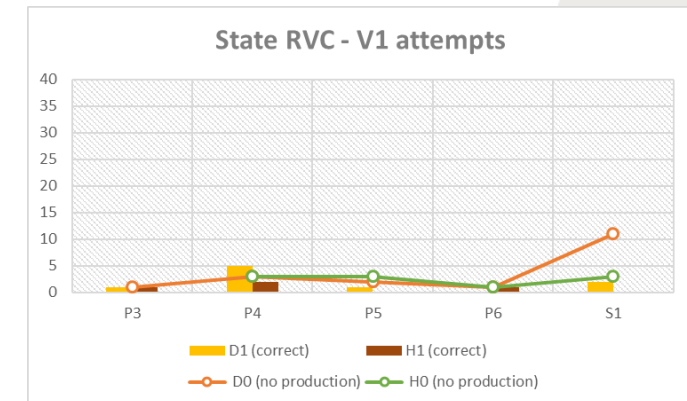
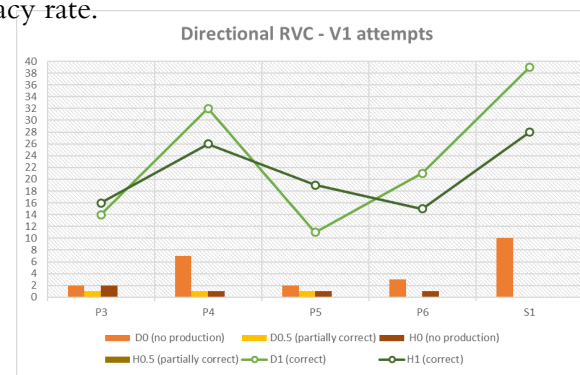
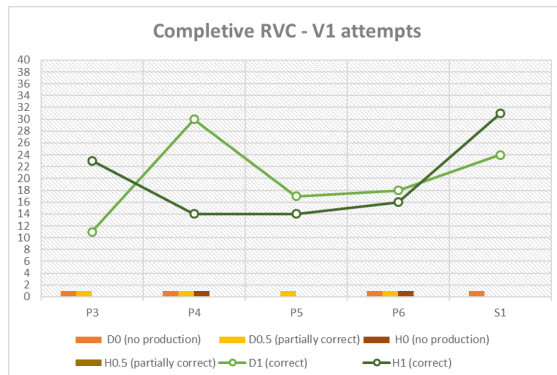
The V1 in compleative RVC has the highest percentage of accuracy rate in both deaf and hearing group.



The V1 in directional RVC poses more difficulties in deaf groups resulting in higher n/a production and lower accuracy rate.



In the data pool of frog story, the state RVC is rare thus less production in both groups were found.



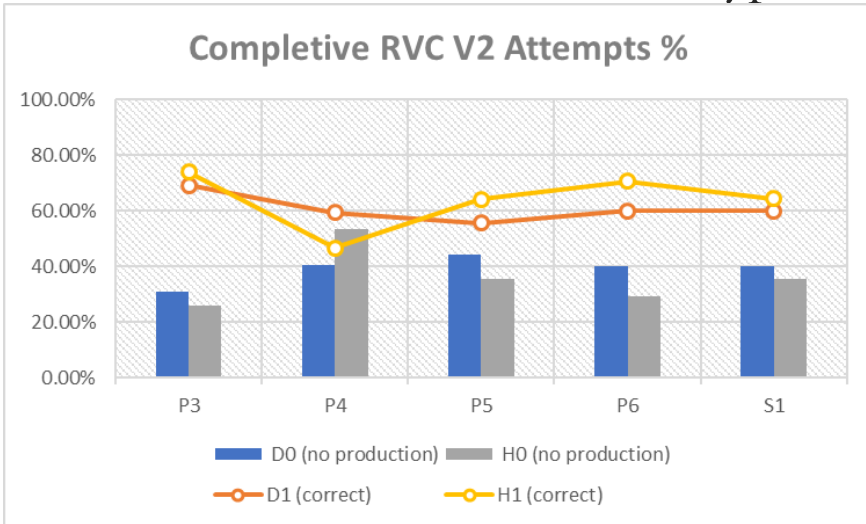
V2 attempts (Avg)	No production	Partially correct	Target
Deaf Group	3.96%	4.27%	91.76%
Hearing Group	2.51%	0.00%	97.49%

V2 attempts (Avg)	No production	Partially correct	Target
Deaf Group	15.29%	3.11%	81.60%
Hearing Group	5.21%	0.00%	94.79%

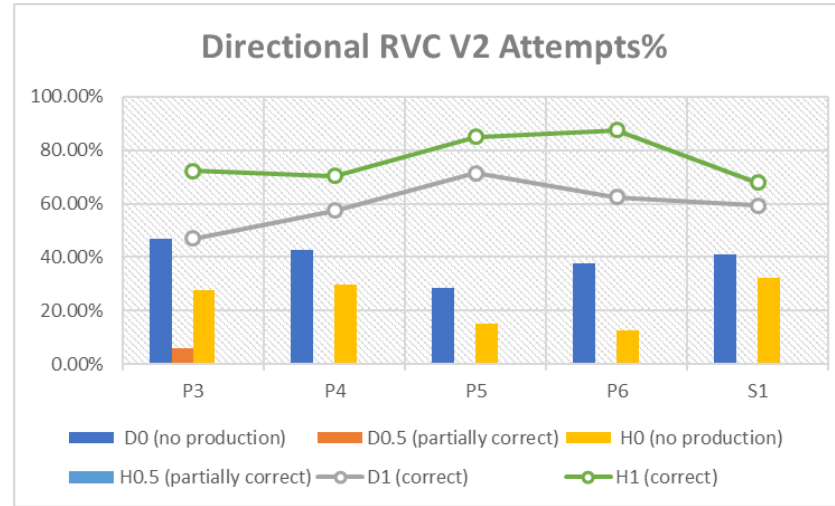
V2 attempts (Avg)	No production	Target
Deaf Group	67.76%	32.24%
Hearing Group	62.00%	38.00%

RESULTS—V2 (IN 3 TYPES)

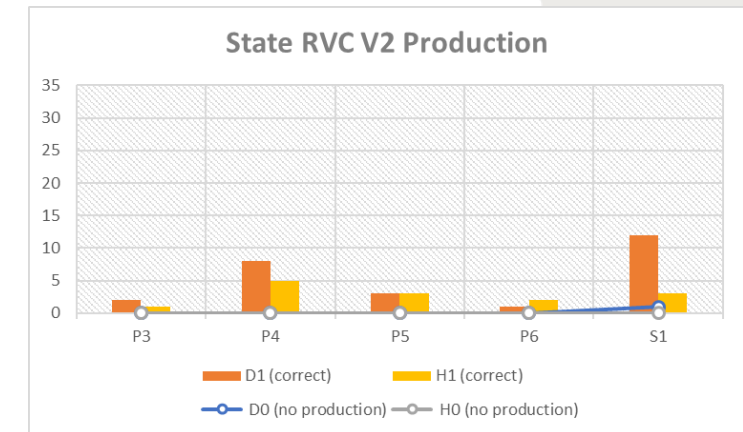
- In terms of different RVC types, how the deaf and hearing groups perform in producing V1 & V2?



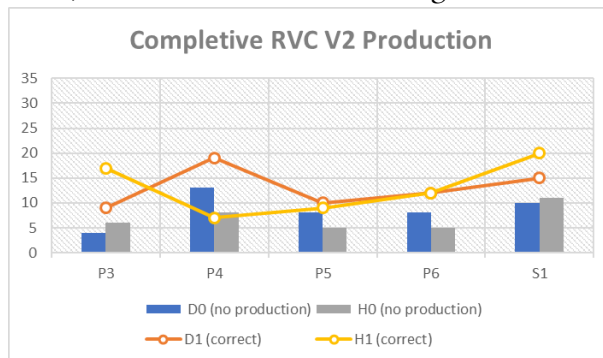
The Deaf and Hearing groups' performance of complete RVCV2 is similar. Unlike V1 receives the highest target correctness, some of the V2 were missing.



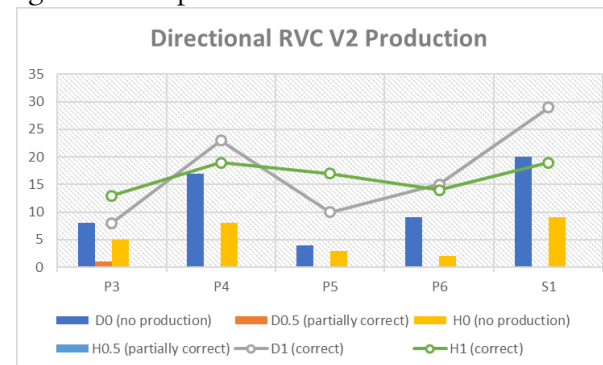
V2 in directional RVC poses more difficulties for deaf students → less production of target token and higher percentage of none-production.



In the data pool of frog story, the state RVC is rare thus less production in both groups were found.



V2 attempts (Avg)	No production	Target
Deaf Group	39.17%	60.83%
Hearing Group	36.01%	63.99%

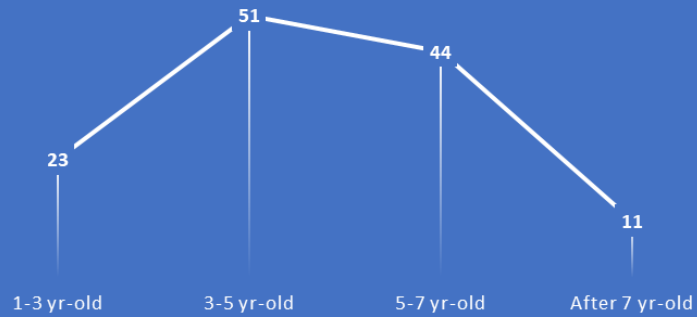


V2 attempts (Avg)	No production	Partially correct	Target
Deaf Group	39.29%	1.18%	59.53%
Hearing Group	23.41%	0.00%	76.59%

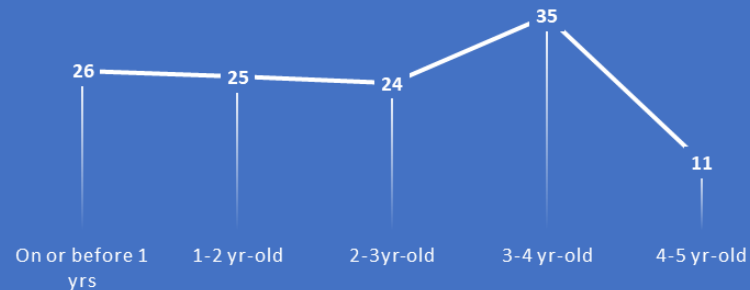
V2 attempts	D0 (no production)	D1 (Target)	H0 (no production)	H1 (Target)
P3	0	2	0	1
P4	0	8	0	5
P5	0	3	0	3
P6	0	1	0	2
S1	1	12	0	3

AOA AND THE PRODUCTION OF TARGET RVC

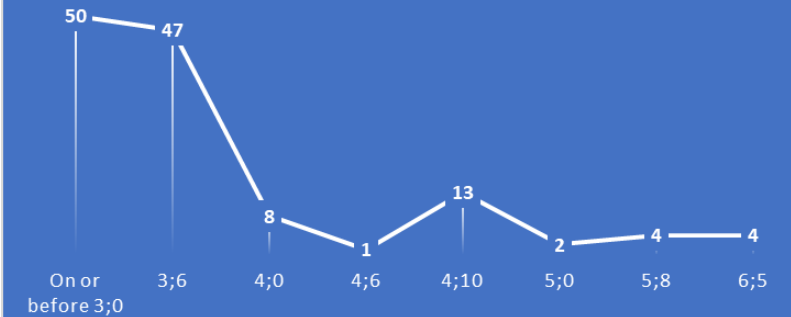
DEAF KIDS PRODUCTION OF TARGET RVC AND THE HKSL AOA



DEAF KIDS PRODUCTION OF TARGET RVC (AOA OF SPOKEN CANTONESE - POST CI)



DEAF KIDS PRODUCTION OF TARGET RVC (WRITTEN CHINESE INPUT)



In terms of the AoA (*Age of Acquisition*/onset of the language), the earlier the children received written Chinese input, they will relevantly produce more target RVC (with respect to the adults' base line).

DISCUSSION – THE ERROR PRONE TYPE – OBSTACLES IN CHILDREN ACQUIRING RVC

- If the child cannot produce the target RVC, what would they do instead? And WHY is that?
- For Directional RVC
 - If the target code is ‘ai’ → action + inward/into movement, e.g., 扔進 (throw into)
 - For both the deaf group and hearing groups, there are following **4** possible morphological code for ‘ai’ :
 - 1. “a” – for just one active action, e.g., 扔, 推
 - 2. “ad” – refers to the meaning of ‘an active action’ + ‘downward movement’, e.g., 扔下
 - 3. “ao” – action + outward movement, e.g., 穿出
 - 4. “i” – inward movement only, e.g., 進
 - For instance, Our result showing that for the Directional RVC ‘s ‘ai’ type, participants who failed to produce the target RVC (V1+V2), tend to choose the “a” type (relies on the action verb solely) to describe the target scene. Deaf group in 88.24% and hearings in 75%.

Target code	Actual Produced error code	Deaf	Hearing	% Deaf group	% Hearing group
ai	a	15	6	88.24%	75.00%
	ac				
	ad		1		12.50%
	ai	1		5.88%	
	ao				
	i	1	1	5.88%	12.50%
ai Total		17	8	17	8

DISCUSSION – DIRECTIONAL RVC

- Our overall observation found out that, for the directional RVCs that the target code are leading by an active action (transitive verbs) (i.e., leading by ‘a’ type), the incomplete production from the children’s token tends to rely on the V1 (action/cause), few was found on the V2 (direction result).
- However, for the type of ‘pd – passive action + downward movement’, there’s no evidence showing that the V1 was also prominent in the children’s production.

Deaf	P3	突然一隻鹿起來把小明放在河裏。	15:A	起來 (get u
Deaf	P4	鹿突然出現了，	15:A	出現 (appec
Deaf	P4	他們起身聽到有呱呱叫聲，	19:A	起身 (get u
Deaf	P5	叫得連小鹿子已經起床了，	15:A	起床 (get u
Deaf	P6	大石上出現了鹿，	15:A	出現 (appec
Deaf	S1	突然，出現鹿，他在鹿的頭上。	15:A	出現 (appec

<i>Directional RVC Target code</i>	<i>Actual Produced code</i>	<i>Deaf</i>	<i>Hearing</i>	<i>% Deaf group</i>	<i>% Hearing group</i>
au	a	11	5	57.89%	62.50%
	ac	1	2	5.26%	37.50%
	au	1	1	5.26%	12.50%
	u	6		*31.58%	
au Total		19	8	19	8
pd	ac				
	afi	1		10.00%	
	d	3	1	30.00%	50.00%
	p	2	1	20.00%	50.00%
	pc	2		20.00%	
	pd	2		20.00%	
pd Total		10	2	10	2

DISCUSSION – ACQUIRING COMPLETIVE RVC

- For the Completive RVC production, children rely on V1-active action, for the typical construction of ‘ac’, deaf group in 90.24% production relies on ‘a’. And 9.76% in the type of ‘ac’ but incorrect in V1.
 - Target production: 抛到 throw+completive-dao
 - Actual production: *拾到

<i>Completive RVC Target code</i>	<i>Actual Produced code</i>	<i>Deaf</i>	<i>Hearing</i>	<i>% Deaf group</i>	<i>% Hearing group</i>
ac	a	37	34	90.24%	97.14%
	ac	4		9.76%	
	ao				
	c				
	m		1		2.86%
ac Total		41	35		
afi	a		1		100.00%
	p				
afi Total			1		
pc	ac	1	1	100.00%	100.00%
pc Total		1	1		
pmc	pm	1		20.00%	
	pmfi	5		83.33%	
pmc Total		6		100.00%	

DISCUSSION – ACQUIRING STATE RVC

- For State RVCs, participants are relying on V2 (result state).
 - In our data, ‘dis’ refers to the meaning of ‘disperse’.
 - The adis in the highlighted row meaning that the V2 is correct, but the participants produced incorrect V1 thus missed the target production.
 - → participants relies on V2.

State RVC Target code	Actual Produced code	Deaf	Hearing	% Deaf group	% Hearing group
adis	a	1		6.67%	
	adis (V2=1)	6	2	40.00%	22.22%
	dis	8	7	53.33%	77.78%
adis Total		15	9		
am	m	3	1	100.00%	100.00%
am Total		3	1		
pmfi	m	1		50.00%	
	pfi	1		50.00%	
pmfi Total		2			

CONCLUSION

○ Completive RVC

- For the stimuli of “Frog, Where Are You” story book, the V1 of Completive RVC have the highest production accuracy rate in both deaf and hearing groups.
- Young children learning writing relies more on V1 of Completive RVC in describing the completive RVC sensitive scenes.

○ Directional RVC

- Directional RVC poses most difficulties to both deaf and hearing groups, in our result, both deaf and hearing students relies on the V1 to produce the target resultative scene (and the accuracy rate of V1 is higher than the V2).
- V2 poses more difficulties on deaf groups --> relies on salient direction V2 to interpret result.

○ State RVC

- For the incorrect / non-successful production in the state RVC sensitive scenes, participants tends to relies on the V2 (the result-state).

○ Early language input.

- Early written Chinese input shown impact on the overall production of target RVC in deaf children’s written Chinese production.
- Cantonese impact is also found.

LTH	Deaf	P3	然後鹿把他們掉到河。	Page 17	掉到 (dropped down)	completive RVC	Target:拋到
WSH	Hearing	P5	把小明掉下去。	Page 17	掉下 (fall down)	directional RVC	Target:扔進
CHKW	Deaf	P6	把他掉在河流，	Page 17	掉 (fell)	completive RVC	Target:拋到
YePY	Hearing	P3	把他們掉到河水裏。	Page 17	掉到 (fell down)	completive RVC	Target:拋到
SKH	Hearing	P4	他就把他掉下去河邊，	Page 17	掉下去 (fell down)	directional RVC	Target:扔進

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