**Processing of novel L2 compounds across repeated exposures during reading: A growth curve analysis**

**Online Supplementary Materials (publicly available at Open Science Framework:** [**https://osf.io/jgwyf/?view\_only=5a8fbb73d60040e2b928e92426fc6b5c**](https://osf.io/jgwyf/?view_only=5a8fbb73d60040e2b928e92426fc6b5c)**)**

Included in this document are the following documents that will be published as online supplementary materials:

* Appendix 1: target compounds used in the experiment

# Appendix 2: distribution of target compounds in the stories

# Appendix 3: stories created for the reading experiment

# Appendix 4: receptive Chinese vocabulary size test

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# Appendix 6: prior lexical knowledge survey

# Appendix 1. Target Compounds Used in the Experiment

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Number | Word | Chinese pinyin | Semantic  transparency | Character-by-character meaning | Word meaning |
| 1 | 商船 | shang-chuan | transparent | business-boat | merchant ship |
| 2 | 铁丝 | tie-si | transparent | iron-thread | iron wire |
| 3 | 果园 | guo-yuan | transparent | fruit-garden | orchard |
| 4 | 油灯 | you-deng | transparent | oil-lamp | oil lamp |
| 5 | 村民 | cun-min | transparent | village-person | villager |
| 6 | 雪山 | xue-shan | transparent | snow-mountain | snowy mountain |
| 7 | 水母 | shui-mu | opaque | water-mother | jellyfish |
| 8 | 背心 | bei-xin | opaque | back-heart | vest |
| 9 | 百合 | bai-he | opaque | hundred-combine | lily |
| 10 | 把手 | ba-shou | opaque | ba-hand | handle |
| 11 | 关节 | guan-jie | opaque | cloze-festival | joint |
| 12 | 天平 | tian-ping | opaque | sky-even | balance/scale |

*Note*. Tone marks for Chinese pinyin are left out. “ba (把)” is a Chinese function word commonly used in the *ba* construction.

# Appendix 2. Distribution of Target Compounds in the Stories

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| S | Set1 | | Set2 | | Set3 | | Set4 | | Set5 | | Set6 | |
| G1/T1 | G2/T2 | G1/T3 | G2/T4 | G1/T5 | G2/T6 | G1/T7 | G2/T8 | G1/T9 | G2/T10 | G1/T11 | G2/T12 |
| S1 | No target word was embedded | | | | | | | | | | | |
| S2 | W12天平 |  |  | W3  果园 |  |  | W3  果园 |  |  | W4  油灯 |  |  |
| S3 |  |  | W9  百合 |  |  | W11关节 |  |  | W1  商船 |  |  | W8  背心 |
| S4 |  | W3  果园 |  |  | W6  雪山 |  |  | W1  商船 |  |  | W10  把手 |  |
| S5 |  | W7  水母 |  |  | W8  背心 |  |  | W11关节 |  |  | W2  铁丝 |  |
| S6 | W2  铁丝 |  |  | W6  雪山 |  |  | W6  雪山 |  |  | W2  铁丝 |  |  |
| S7 |  |  | W7  水母 |  |  | W5  村民 |  |  | W6  雪山 |  |  | W7  水母 |
| S8 |  |  | W2铁丝 |  |  | W7  水母 |  |  | W8  背心 |  |  | W5  村民 |
| S9 |  | W8  背心 |  |  | W4  油灯 |  |  | W4  油灯 |  |  | W12  天平 |  |
| S10 | W9  百合 |  |  | W10把手 |  |  | W7水母 |  |  | W7  水母 |  |  |
| S11 |  | W1  商船 |  |  | W12天平 |  |  | W12天平 |  |  | W3  果园 |  |
| S12 | W4  油灯 |  |  | W11关节 |  |  | W2  铁丝 |  |  | W5  村民 |  |  |
| S13 |  |  | W4  油灯 |  |  | W2  铁丝 |  |  | W11关节 |  |  | W4  油灯 |
| S14 |  |  | W8  背心 |  |  | W9  百合 |  |  | W12天平 |  |  | W11  关节 |
| S15 |  | W11关节 |  |  | W3  果园 |  |  | W10把手 |  |  | W9  百合 |  |
| S16 | W5  村民 |  |  | W12天平 |  |  | W8  背心 |  |  | W10  把手 |  |  |
| S17 | W10把手 |  |  | W5  村民 |  |  | W9  百合 |  |  | W9  百合 |  |  |
| S18 |  |  | W1  商船 |  |  | W1  商船 |  |  | W3  果园 |  |  | W1  商船 |
| S19 |  | W6  雪山 |  |  | W10把手 |  |  | W5  村民 |  |  | W6  雪山 |  |
| S20 | No target word was embedded | | | | | | | | | | | |

*Note*. S: sentence; G-group, T-text/story, W-word (target compounds were numbered according to Appendix 1.)

# Appendix 3. Stories Created for the Reading Experiment

*Note*. SS: sentence. Target compounds and their English meaning are in bold. Stories were grouped in a way such that the two stories in each set used up the twelve target compounds. S: set; T: text.

|  |  |
| --- | --- |
| SS | Story S1T1 |
| 1 | 我们班的老师非常有意思。  The teachers that teach our class are really interesting. |
| 2 | 物理老师喜欢拿着他的**天平**称东西。  Our physics teacher likes to take his **scale** and weigh things. |
| 3 | 可是他常常找不到自己的钱包。  But he frequently cannot find his own wallet. |
| 4 | 有一次，他把钱包丢在了办公室里。  One time, he lost his wallet in his office. |
| 5 | 因为没带钱，物理老师坐公交车的时候被赶了下来。  Because he didn’t have any money with him, he got kicked off the public bus. |
| 6 | 化学老师喜欢用**铁丝**做各种玩具。  Our chemistry teacher likes to make all kinds of toys using **iron wire**. |
| 7 | 有一次，他做了一辆自行车。  One time, he made a bicycle. |
| 8 | 然后，他把这辆自行车送给了一位学生。  Then, he gave the bicycle to a student as a gift. |
| 9 | 我们班最受大家欢迎的是英语老师。  Our classes’ favorite teacher is our English teacher. |
| 10 | 她喜欢各种颜色的花，尤其是**百合**和玫瑰。  She likes lots of different colored flowers, especially **lilies** and roses. |
| 11 | 有一次，教室的灯坏了。  One time, the lights in the classroom weren’t working. |
| 12 | 英语老师于是从家里拿了一个**油灯**给大家用。  So, our English teacher brought in an **oil lamp** from home for everyone to use. |
| 13 | 教室一下子就亮了起来。  Just like that, the classroom became bright again. |
| 14 | 她就在灯光下给我们讲各种有趣的故事。  (Then) She told us all manner of interesting stories under the light (of the oil lamp). |
| 15 | 还有一次，英语老师带全班同学去春游。  Another time, our English teacher took us on a spring (field) trip. |
| 16 | 走了半个小时之后，大家经过一位**村民**的房子。  After walking for half an hour, we walked past a **villager**’s house. |
| 17 | 房子的门上没有**把手**，只有一张纸条。  The door to their house didn’t have a **handle**, just a piece of paper. |
| 18 | 纸条上写着：“主人不在家，厨房里有水。  On the piece of paper were written the words “The owner is not home. There’s water in the kitchen.” |
| 19 | 同学们高兴极了，都去厨房里找水喝。  All of us students were beside ourselves with excitement and went into the kitchen to find some water to drink. |
| 20 | 英语老师写了一封感谢信，贴在了门上。  English teacher wrote a thank you note and posted it on the door. |

Appendix 3. Stories Created for the Reading Experiment (continued)

|  |  |
| --- | --- |
| SS | Story S1T2 |
| 1 | 小明住在海边的一个村子里。  Xiaoming lives in a village by the sea. |
| 2 | 村子虽然不大，但是非常漂亮。  Though not very big, the village was very pretty. |
| 3 | 小明的邻居是一位很有意思的爷爷。  Xiaoming had an old grandpa who was very interesting. |
| 4 | 他有一片很大的**果园**，里面种满了香蕉。  The old grandpa had a large **orchard** full of bananas in bloom. |
| 5 | 他家还有一个水池，养着漂亮的**水母**和热带鱼。  His house also had a pond where a pretty **jellyfish** and (other) tropical fish lived. |
| 6 | 小明常常去爷爷家看他养的鱼。  Xiaoming goes over to the old grandpa’s house all the time to see his pet fish. |
| 7 | 有时候，他也跟爷爷一起去海边钓鱼。  Sometimes, he also goes fishing with the old grandpa at the beach. |
| 8 | 海边的空气很新鲜，但是天气很热。  The beach air is fresh, but the weather is very hot. |
| 9 | 所以妈妈总是让他穿白色的**背心**去海边玩。  So, (Xiaoming’s) mom always makes him wear a white **vest** to play on the beach. |
| 10 | 钓鱼的时候，爷爷喜欢给小明讲年轻时的故事。  The old grandpa likes to tell Xiaoming stories of when he was young while they fish. |
| 11 | 那时候，他在一艘很大的**商船**上工作。  Back then, he worked on a large **merchant ship**. |
| 12 | 船上有很多来自不同地方的人。  There were people from many different places on the ship. |
| 13 | 爷爷的工作是负责修理船上的机器。  The old grandpa’s job was repairing the machines on the ship. |
| 14 | 有一次，爷爷从五米高的地方摔了下来。  One time, the old grandpa fell five meters down off a very high place. |
| 15 | 但幸运的是，他只是右腿的**关节**受了伤。  But luckily, he only hurt the **joint** of his right knee. |
| 16 | 他很快被送到了附近的一家医院。  He was rushed to a nearby hospital. |
| 17 | 在医院里，他认识了一位美丽的护士。  At the hospital, he met a beautiful nurse. |
| 18 | 这位护士来自离大海很远的地方。  She was from a place very far away from the sea. |
| 19 | 她家附近有一座**雪山**，还有一条小河。  There was a **snowy mountain** near her house as well as a small river. |
| 20 | 这位护士后来被爷爷感动，成了他的妻子。  The nurse eventually fell for the old grandpa and became his wife. |

Appendix 3. Stories Created for the Reading Experiment (continued)

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| SS | Story S2T3 |
| 1 | 六月一日是儿童节。  June first is Children’s Day. |
| 2 | 这天早上，小军七点钟就起床了。  On this morning, Xiaojun got up at 7 o’clock. |
| 3 | 他从花园里采了一朵**百合**插在花瓶里。  He picked a **lily** from the garden and placed it in a vase. |
| 4 | 然后，他又给花瓶换上了新鲜的水。  Then, he refreshed the water in the vase (changed out the water in the vase with fresh, new water). |
| 5 | 妈妈喊他吃早饭，可是他一心只想出去玩。  His mom called him for breakfast, but all he wanted to do was go out and play. |
| 6 | 小军骑着爸爸送给他的自行车来到了海边。  Xiaojun rode the bike his dad gave him to the beach. |
| 7 | 他发现一只白色的**水母**躺在沙滩上，  He found a white **jellyfish** lying in the sand, |
| 8 | 于是，他赶紧用一根**铁丝**把它拖回了水里。  and then used an **iron wire** to drag it back into the water. |
| 9 | 吃完了早饭，小军去找朋友们玩游戏。  After eating breakfast, Xiaojun left to play games with his friends. |
| 10 | 他们在学校的草地上玩石头，玩沙子。  They played with rocks and sand on the grassy area at school. |
| 11 | 晚饭吃完之后，小军让爸爸带他去河边玩。  After finishing dinner, Xiaojun had his dad take him to play by the riverside. |
| 12 | 他们家附近的河里有很多小鱼。  There are lots of little fish in the river near their house. |
| 13 | 只要用**油灯**往水里照，小鱼就会游到水面上来。  Whenever an **oil lantern** is reflected onto the water, the little fish will swim to the surface. |
| 14 | 小军玩得很开心，把身上穿的**背心**都弄湿了。  Xiaojun had lots of fun, and got the **vest** he was wearing wet. |
| 15 | 可是爸爸并没有骂他，一直陪着他玩。  But his dad didn’t yell at him; he played alongside him the whole time. |
| 16 | 夏天的傍晚很炎热，一点风也没有。  Dusk in summertime is very hot and the wind never blows at all. |
| 17 | 没过多久，小军就出了许多汗。  In no time at all, Xiaojun was sweating heavily. |
| 18 | 他看到一艘装满货物的**商船**停在岸边。  He saw a **merchant ship** loaded with goods anchored on the shore. |
| 19 | 于是，小军就拉着爸爸去看船。  Then, Xiaojun, holding his dad’s hand, went over to look at the boat |
| 20 | 等他看完了船回到家，已经晚上十点了。  When he got back home after looking at the boat, it was already 10 PM (ten o’clock at night). |

Appendix 3. Stories Created for the Reading Experiment (continued)

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| SS | Story S2T4 |
| 1 | 刘老板一直在忙他的生意。  Mr. Liu’s business always keeps him occupied. |
| 2 | 他建了一个**果园**，种了很多葡萄。  He built a **fruit farm** and planted lots of grapes. |
| 3 | 这些葡萄是从法国进口的。  These grapes are imported from France. |
| 4 | 为了种葡萄，他从银行借了十几万元。  In order to plant grapes, he borrowed over 100,000 dollars from the bank. |
| 5 | 他请工人在地里挖了很多井。  He brought in laborers to dig lots of wells in the ground. |
| 6 | 这些井可以保存从**雪山**上流下来的水。  These wells are able to store the water that flows down from the **snowy mountains**. |
| 7 | 这样，他的葡萄园在夏天也能有足够的水。  This way, his vineyard is able to have sufficient water even in the summer. |
| 8 | 他在葡萄园旁边盖了一座小房子。  He built a small house next to the vineyard. |
| 9 | 这座房子只有一间办公室和一个厕所。  The house only had an office and a bathroom. |
| 10 | 办公室和厕所门上的**把手**都是木头做的。  The **handles** on the doors to the office and the bathroom are both made of wood. |
| 11 | 刘老板经常坐在办公室里学习种葡萄的技术。  Mr. Liu often sits in the office and studies grape-planting techniques. |
| 12 | 时间久了，他的手指**关节**总是会疼。  After a long time, the **joints** in his fingers start hurting all the time. |
| 13 | 所以，每隔半个小时，他必须起来走一走。  So, every half hour, he has to get up and walk around. |
| 14 | 秋天到了，葡萄园里的葡萄成熟了。  Fall arrived and the grapes in the vineyard ripened. |
| 15 | 每一颗葡萄都长得特别大。  Every grape had grown quite large. |
| 16 | 刘老板挑了一颗大葡萄，用**天平**称出了它的重量。  Mr. Liu picked a large grape and used a **balance** to measure its weight. |
| 17 | 然后，他把帮他干活儿的**村民**请进了办公室。  Then, he invited the **villagers** who had worked for him into his office. |
| 18 | 他笑着说：“葡萄园今年收获很多，大家辛苦了！”  Smiling, he said, “This year the vineyard harvested a lot (of grapes), thank everyone for your hard work!” |
| 19 | 他给每个人发了一万元作为奖金。  He gave everyone 10,000 yuan as a bonus. |
| 20 | 大家拿了刘老板发的奖金，工作更加认真了。  After getting the bonus from Mr. Liu, everyone worked even more diligently. |

Appendix 3. Stories Created for the Reading Experiment (continued)

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| SS | Story S3T5 |
| 1 | 小刚住在一个很美的地方。  Xiaogang lives in a beautiful place. |
| 2 | 他家的房子后面有一个很大的湖。  There is a large lake behind his family’s house. |
| 3 | 湖边是一片茂密的森林。  There is a lush forest on the bank of the lake. |
| 4 | 森林的尽头是一座高大的**雪山**，非常漂亮。  At the edge of the forest, there is a high **snowy mountain**, it’s so pretty. |
| 5 | 小刚特别喜欢脱掉**背心，**跳到湖里游泳。  Xiaogang really likes to take off his **vest** and him into the lake to swim. |
| 6 | 湖水很清，一年四季都很凉快。  The lake’s water is very clear, and it is cool all year round. |
| 7 | 春天的时候，湖边会飞来很多的鸟儿。  In the spring, lots of birds fly to the lakeside. |
| 8 | 太阳落山的时候，它们又会飞到森林里去。  When the sun sets, the birds fly into the forest. |
| 9 | 小刚常常提着**油灯**去森林里找小鸟。  Xiaogang often goes searching for birds in the forest carrying an **oil lantern**. |
| 10 | 有时候，小鸟会不小心从树上掉下来。  Sometimes, baby birds accidentally fall out of the trees. |
| 11 | 每次捡到小鸟，他都会用一个**天平**给它们称体重。  Every time he picks up a baby bird, he (Xiaogang) will use a **balance** to weigh them. |
| 12 | 然后，他会把小鸟带到自己家里。  Then, he takes the baby birds back to his house. |
| 13 | 小刚用草和泥土做了温暖的鸟窝。  Xiaogang made a cozy birds nest using dirt and grass (straw). |
| 14 | 小鸟饿了的时候，他就去捉虫子给它们吃。  When the baby birds get hungry, he went and caught bugs to feed to them. |
| 15 | 虫子经常躲在**果园**里的果树上偷吃水果。  Bugs are often hiding on the fruits in the **orchard**, sneakily eating some fruit. |
| 16 | 小鸟吃了虫子，长得越来越大。  After eating bugs, the baby birds grew bigger and bigger |
| 17 | 等到它们的羽毛长齐了，小刚就开始教小鸟飞。  Once all of their feathers grow in, Xiaogang starts teaching the baby birds to fly. |
| 18 | 虽然没有鸟妈妈，但是小刚有自己的办法。  Even though there is no mama bird around, Xiaogang has his way own way of doing things. |
| 19 | 他把小鸟放在自行车的**把手**上面，然后把自行车骑得飞快。  He puts the baby birds on the **handle**(bars) of his bike, and then he rides the bike at top speed. |
| 20 | 骑着骑着，小鸟迎着风就飞起来啦！  As he rides, the birds catch the breeze and take flight! |

Appendix 3. Stories Created for the Reading Experiment (continued)

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| SS | Story S3T6 |
| 1 | 去年夏天，我在海边度过了一个非常愉快的假期。  Last summer, I had a wonderful vacation at the beach. |
| 2 | 我的家乡经常下雨。  It rains often in my hometown. |
| 3 | 因为天气的原因，很多人的**关节**都有毛病。  Because of the weather, lots of people have **joint** problems. |
| 4 | 所以，我决定去一个天气晴朗的地方度假。  So, I decided to go on vacation to a place with warmer weather. |
| 5 | 坐了十个小时的火车之后，我来到了一个海边的村子。  After riding a train for over ten hours, I arrived in a village by the sea. |
| 6 | 这个村子有一片很大的沙滩。  There was a large beach in the village. |
| 7 | 这里的**村民**皮肤很黑，但是非常健康。  The **villagers** were all very dark-skinned, but all very healthy. |
| 8 | 他们有时候能从海里捉到发光的**水母**和奇怪的鱼。  Sometimes, they would catch sparkling **jellyfish** and odd fish in the ocean. |
| 9 | 然后，他们会把这些东西卖给游客们。  Then, they would sell them to tourists. |
| 10 | 他们钓鱼的方法也很奇怪。  Their fishing technique was also very weird. |
| 11 | 他们钓鱼不用虫子，也不用面包。  They fish with bread, not insects. |
| 12 | 甚至，他们连鱼钩也不用。  They don’t even use fishhooks. |
| 13 | 他们只用一根**铁丝**就可以钓到各种各样的鱼。  All they use is an **iron wire**, and they’re able to catch all kinds of fish. |
| 14 | 这个村子里的人喜欢种**百合**和兰花。  The people in this village like to plant **lilies** and orchids. |
| 15 | 他们认为这些花能带来平安和好运。  They believe that these flowers bring peace and good luck. |
| 16 | 村子里的人开了很多工厂。  The people in the village have opened lots of factories. |
| 17 | 他们有服装厂，有雨伞厂，还有鞋厂。  They have clothing factories, umbrella factories, and shoe factories. |
| 18 | 每个月都有**商船**从别的港口开过来。  Every month, **merchant ships** sail over from other ports. |
| 19 | 这些船来的时候带着水和食物。  These ships bring water and food when they come. |
| 20 | 走的时候，它们会把工厂生产的东西带到国外。  When they leave, they take the items produced by the factories back abroad. |

Appendix 3. Stories Created for the Reading Experiment (continued)

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| SS | Story S4T7 |
| 1 | 老王是村里最勤劳的农民，但是他很穷。  Lao Wang is the hardest working farmer in the village, but he is very poor. |
| 2 | 一天晚上，他梦见**果园**的苹果树下面有一个箱子。  One night, he dreamed there was a box under an apple tree in an **orchard.** |
| 3 | 箱子很大，里面装着很多钱。  The box was very large and filled with lots of money. |
| 4 | 可是箱子被锁住了，怎么也打不开。  But the box had been locked, and there was no way to open it. |
| 5 | 他很着急，开始到处找钥匙。  Very anxious, he looked everywhere for the key. |
| 6 | 他看到一座白色的**雪山**就在不远的地方。  He saw a white **snowy mountain** not far in the distance. |
| 7 | 那座山的山顶上有很多云。  There were lots of clouds at the mountain’s peak. |
| 8 | 他想爬上山，可是身体冷极了。  He wanted to climb the mountain, but his body was extremely cold. |
| 9 | 好不容易翻过了那座山，他来到了海边。  After finally traversing the mountain with much effort, he came to a beach. |
| 10 | 他看到一些巨大的**水母**在海里游着。  He saw an enormous **jellyfish** swimming in the ocean. |
| 11 | 老王找到了一条船，于是划着船继续寻找钥匙。  Lao Wang found a boat, and then continued his search for the key rowing in his boat. |
| 12 | 他用细细的**铁丝**做成钩子来钓鱼吃。  He used a fishhook made of fine **iron wire** to catch fish to eat. |
| 13 | 海上的太阳很晒，风浪也很大。  The sun shone bright on the ocean, and the waves were also quite large. |
| 14 | 不知道过了多久，老王终于把船划到了岸边。  Not knowing how much time had passed, Lao Wang finally rowed the boat to shore. |
| 15 | 这时候，他身上已经被海水全部打湿了。  By this time, his whole body had become wet from the ocean water. |
| 16 | 他把身上穿的**背心**脱下来，打算洗一洗。  He took off the **vest** he was wearing, planning to wash it. |
| 17 | 突然，老王闻到了一阵**百合**的香味。  Suddenly, Lao Wang caught wind of the fragrance of **lilies**. |
| 18 | 他沿着香味仔细寻找。  He followed the scent, carefully searching. |
| 19 | 终于，他在一片草丛里找到了钥匙。  Finally, he found the key in a bed of grass. |
| 20 | 他打开了苹果树下面的箱子，得到了所有的钱。  He opened the box under the apple tree, and got all of the money (inside). |

Appendix 3. Stories Created for the Reading Experiment (continued)

|  |  |
| --- | --- |
| SS | Story S4T8 |
| 1 | 小云的妈妈生病好多年了。  Xiaoyun’s mom had been sick for years. |
| 2 | 为了给妈妈治病，爸爸决定去外地工作。  To help her mom find a cure, her dad left the city to find work. |
| 3 | 爸爸告诉小云，在家要听妈妈的话，多做家务。  Xiaoyun’s dad told her to listen to her mom and to do lots of chores around the house. |
| 4 | 过完年后，爸爸就坐着一艘**商船**离开了家。  After the New Year, Xiaoyun’s dad left home on a **merchant ship**. |
| 5 | 有一天，妈妈的腿**关节**疼得特别厉害。  One day, Xiaoyun’s mom’s leg **joints** hurt really badly. |
| 6 | 一不小心，她摔倒在了厨房的地板上。  Accidentally, she fell to the floor in the kitchen. |
| 7 | 她疼得很厉害，躺在地上爬不起来。  She was in lots of pain, laying on the ground unable to get back up. |
| 8 | 小云回到家之后，发现家里没人。  Once Xiaoyun got home, she realized there was no one else there. |
| 9 | 她点亮了**油灯**，终于在厨房里找到了妈妈。  She lit an **oil lantern**, and finally found her mom in the kitchen. |
| 10 | 第二天早上，她去市场帮妈妈买菜。  The next morning, she went to the market to buy groceries for her mom. |
| 11 | 卖菜的人用**天平**给她称了半斤豆腐。  The merchant used a **scale** to weigh out a half *jin* (a unit of weight used in China) of tofu. |
| 12 | 她又买了一条一斤多重的鱼。  She also bought a fish that weighed over a *jin*. |
| 13 | 她打算给妈妈做很有营养的豆腐鱼汤。  She planned to make a nutritious fish and tofu soup for her mom. |
| 14 | 买完了菜，小云又去花店买了一盆鲜花。  After buying groceries, Xiaoyun went to the florist to buy a pot of flowers. |
| 15 | 到家后，她发现房门的**把手**好像坏了。  When she got home, she realized that the doorknob (door **handle**) seemed to be broken. |
| 16 | 她把花放到了妈妈房间的桌子上。  She put the flowers on the table in her mom’s room. |
| 17 | 然后，她马上找来工具修理房门。  Then, she quickly found some tools to repair the door. |
| 18 | 经过半个多小时的努力，房门终于修好了。  After about half an hour of work, the door was finally fixed. |
| 19 | 附近的**村民**都夸小云是个懂事的好孩子。  The local **villagers** all complimented Xiaoyun, saying she is a well-behaved and mature kid. |
| 20 | 在小云的照顾下，妈妈的身体越来越好。  Under Xiaoyun’s care, her mom’s health improved more and more. |

Appendix 3. Stories Created for the Reading Experiment (continued)

|  |  |
| --- | --- |
| SS | Story S5T9 |
| 1 | 今天是暑假的第一天。  Today is the first day of summer vacation. |
| 2 | 丽丽打算和朋友们一起出去玩。  Lili is planning to go out with friends. |
| 3 | 她们约好在码头的**商船**上见面。  They agreed to meet up on the **merchant ship** at the dock. |
| 4 | 但是因为粗心，丽丽坐错了船。  But Lili, due to her carelessness, got on the wrong boat. |
| 5 | 她在船上等了很久也没有看到朋友们。  She waited on the boat for a long time but did not see her friends. |
| 6 | 船越开越远，丽丽心里也越来越着急。  The boat sailed further and further away, and Lili felt more and more anxious. |
| 7 | 尽管远处的**雪山**很美，但是她一点也不开心。  Though the **snowy mountains** in the distance were very beautiful, Lili was not happy at all. |
| 8 | 这时，一个穿着**背心**的伯伯朝她走来。  Then, a man wearing a **vest** walked towards her. |
| 9 | 他问丽丽是不是遇到了什么困难。  He asked Lili if she was in some kind of trouble. |
| 10 | 丽丽跟伯伯解释了事情的经过。  Lili explained what had happened to the man. |
| 11 | 伯伯告诉丽丽，他自己有一家农场。  The man told Lili that he had a farm. |
| 12 | 农场很漂亮，也许丽丽可以去他的农场玩。  The farm was very pretty, maybe Lili could come visit? |
| 13 | 因为经常劳动，伯伯的手指**关节**变得非常粗大。  Because of frequent (manual) labor, the **joints** on the man’s fingers were big and thick. |
| 14 | 他告诉丽丽，生活就像一架**天平**一样。  He told Lili, life is like a **balance**. |
| 15 | 只有辛勤的劳动，才能换来同样的收获。  Only through diligence and hard work can one receive similar gains (in life). |
| 16 | 听了伯伯的话，丽丽的心情好了很多。  After listening to the man, Lili felt much better. |
| 17 | 船停下来之后，她又跟伯伯走了十分钟路。  When the ship stopped, she walked with the man for another ten minutes. |
| 18 | 伯伯带丽丽去他的**果园**摘新鲜的水果。  The man brought Lili to his **orchard** to pick fresh fruits. |
| 19 | 这里的水果又大又红，味道好极了。  The fruits there were big and red and tasted excellent. |
| 20 | 这次农场之旅，让丽丽有很多意外的收获。  This unexpected farm trip brought Lili lots of unexpected gains. |

Appendix 3. Stories Created for the Reading Experiment (continued)

|  |  |
| --- | --- |
| SS | Story S5T10 |
| 1 | 小美生活在一个幸福的家庭里。  Xiaomei lives in a happy family. |
| 2 | 每天晚上，她总是在**油灯**下认真地做作业。  Every night, she does her homework diligently under an **oil lantern**. |
| 3 | 小美的妈妈是一位非常能干的女人。  Xiaomei’s mom is a very capable woman. |
| 4 | 她总是把家里打扫得干干净净。  She keeps the house spotless. |
| 5 | 小美的爸爸是一个木匠。  Xiaomei’s dad is a carpenter. |
| 6 | 他喜欢用**铁丝**和木头做各种东西。  He likes to make all kinds of things out of **iron wire** and wood. |
| 7 | 小美还有一个可爱的妹妹，名字叫豆豆。  Xiaomei also has a cute little sister whose name is Doudou. |
| 8 | 豆豆总是能给家里带来很多快乐。  Doudou brings everyone in the family lots of joy. |
| 9 | 有一次，爸爸妈妈带豆豆去海边玩。  One time, mom and dad took Doudou to play at the beach. |
| 10 | 他们发现一只透明的**水母**在水里游。  They found a transparent **jellyfish** swimming in the water. |
| 11 | 但不幸的是，它游到了沙滩上。  Unfortunately, it swam onto the shore. |
| 12 | 附近正在劳动的**村民**把它捡起来，放回了海里。  **Villagers** working nearby picked it up and put it back into the ocean. |
| 13 | 还有一次，妈妈过三十岁的生日。  Another time, it was mom’s 30th birthday. |
| 14 | 小美和豆豆一起为妈妈准备了生日礼物。  Xiaomei and Doudou made a gift for their mom together. |
| 15 | 他们想给妈妈一个生日惊喜。  They wanted to give their mom a birthday surprise. |
| 16 | 豆豆在房门的**把手**上挂了一张生日卡片。  Xiaomei hung a birthday card from the doorknob (door **handle**) of their house. |
| 17 | 小美把一束漂亮的**百合**插在了花瓶里。  Xiaomei put a bunch of pretty **lilies** in a vase. |
| 18 | 妈妈发现了女儿们送的礼物之后非常高兴。  Mom was so happy when she discovered the gifts from her daughters. |
| 19 | 这时候，爸爸也带着生日蛋糕回到了家。  Then, dad came home with a birthday cake. |
| 20 | 他们一起为妈妈点亮了蜡烛，庆祝生日。  Together, they lit the candles for mom to celebrate her birthday. |

Appendix 3. Stories Created for the Reading Experiment (continued)

|  |  |
| --- | --- |
| SS | Story S6T11 |
| 1 | 小兰生了一个儿子。  Xiaolan gave birth to a son. |
| 2 | 她的亲人和朋友们都非常开心。  Her friends and family were all very happy. |
| 3 | 小兰给儿子准备了一间房间。  Xiaolan prepared a room for her son. |
| 4 | 她在房门的**把手**上挂了一只可爱的小狗。  She hung a little dog on the doorknob (door **handle**) of the room. |
| 5 | 她的丈夫还用细长的**铁丝**做了一架小飞机。  Her husband also made a small plane out of **iron wire**. |
| 6 | 他们把小飞机吊在儿子的小床上。  They hung the plane above their little son’s bed. |
| 7 | 小兰打算和丈夫一起好好照顾儿子。  Xiaolan planned to take good care of her son along with her husband. |
| 8 | 她每天都给儿子喂牛奶喝。  She gave her son milk to drink every day. |
| 9 | 每个月，她都会把儿子抱到**天平**上称体重。  Every month, she carried her son over to the **scale** to weigh him. |
| 10 | 儿子一天天长大，小兰和丈夫高兴极了。  Their son got bigger and bigger each day, and Xiaolan and her husband were so very happy. |
| 11 | 上周，小兰带儿子去附近的**果园**摘苹果。  Last week, Xiaolan took her son to a nearby **orchard** to pick apples. |
| 12 | 那里的苹果又大又红，非常有名。  The apples there were big and red, and very famous. |
| 13 | 小兰摘了很多苹果，然后切成小块儿给儿子吃。  Xiaolan picked lots of apples, and then cut them into small pieces for her son to eat. |
| 14 | 为了让儿子的房间更漂亮，小兰打算买一些花。  Xiaolan planned to buy some flowers to make her son’s room even prettier. |
| 15 | 她最后买了几束**百合**和一大把玫瑰。  She ended up buying a couple bunches of **lilies** and a large bunch of roses. |
| 16 | 她把这些花儿放在儿子房间的桌子上。  She put the flowers on the table in her son’s room. |
| 17 | 小兰和丈夫都特别喜欢旅游。  Xiaolan and her husband really liked to travel. |
| 18 | 他们的愿望是带儿子去世界各地游玩。  It was their wish to take their son traveling all over the world. |
| 19 | 夏天的时候，可以去天气寒冷的**雪山**爬山。  In the summer, they could go climb icy cold **snow-capped mountains**. |
| 20 | 冬天的时候，可以去阳光温暖的海边游泳。  In the winter, they could go swimming at the warm sunny beach. |

Appendix 3. Stories Created for the Reading Experiment (continued)

|  |  |
| --- | --- |
| SS | Story S6T12 |
| 1 | 小红的爸爸有一条自己的船。  Xiaohong’s dad had his own boat. |
| 2 | 有一次，小红到爸爸的船上去玩。  One time, Xiaohong went out on her dad’s boat. |
| 3 | 她穿了一件白色的**背心**坐在船上钓鱼。  She wore a white **vest** and sat on the boat to fish. |
| 4 | 突然，海上的天气发生了变化。  Suddenly, the weather over the ocean changed. |
| 5 | 暴风雨一下子就把小红的船打翻了。  A rainstorm suddenly flipped Xiaohong’s boat over. |
| 6 | 小红掉到了海里，开始拼命挣扎。  Xiaohong fell into the water and started to struggle for her life. |
| 7 | 不幸的是，她的腿被水里的**水母**刺伤了。  Unfortunately, her leg was stung by a **jellyfish** in the water. |
| 8 | 她大声地向岸边的几个**村民**求救。  She loudly called out to the couple **villagers** on the shore for help. |
| 9 | 一个年轻人想救小红，可是他不会游泳。  A young man wanted to save Xiaohong, but he didn’t know how to swim. |
| 10 | 另一个好心的叔叔脱下衣服，跳进了海里。  Another nice man took off his shirt and pants and jumped into the water. |
| 11 | 他朝小红奋力地游了过去。  He swam powerfully towards Xiaohong. |
| 12 | 小红得救之后，天已经黑了。  By the time Xiaohong had been saved, it had already gotten dark. |
| 13 | 叔叔点亮了一个**油灯**，帮小红检查伤口。  The man lit an **oil lantern** and checked out Xiaohong’s wound. |
| 14 | 伤口位于左腿的**关节**附近，看上去不是特别严重。  The wound was located near the j**oint** in her left leg, but didn’t look that serious. |
| 15 | 叔叔背着小红走了很长一段路。  The man walked down the road for a long time carrying Xiaohong on his back. |
| 16 | 最后，他把小红带到了自己家里。  Eventually, he brought Xiaohong back to his house. |

# Appendix 4. Receptive Chinese Vocabulary Size Test

In this task, you will see a series of Chinese words, and you should indicate whether you know the meaning of the word by choosing "Yes" or "No." You should not look up the words using dictionaries. Make the judgments based on your own knowledge.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Block1 | Block2 | Block3 | Block4 | Block5 |
| 走  它  肯定  案子  错过  人物  存  雨  适应  夸张  声称  出名  胆小鬼  领带  好转  登场  出院  扑  规模  太平洋  现身 | 嗯  唯一  麻烦  复杂  仍  测试  高级  每年  恶魔  狠  前途  广播  周日  沙拉  除此之外  缺点  好友  正事  副作用  办公  麻 | 参加  信  狗  吐  监视  出手  出事  严格  现在  闯入  结合  沿着  语气  磨  壮  病房  碰面  双重  艰苦  烦心  枪手 | 从没  下面  值得  速度  总统  类似  啥子  街区  进一步  目击者  名声  局面  当晚  之上  离家  罐子  垃圾桶  军方  辐射  并  颇 | 面对  目前  通常  即将  话题  耳朵  划  文化  处境  福  视线  实施  当事人  门外  翅膀  墓地  实习  技能  触摸  美食  被害人 |

*Note*. This vocabulary test was borrowed from Pelzl, Lau, Guo & DeKeyser (2018). The blocks and the words within each block were randomized.

# Appendix 5. Morphological Awareness Test

In this task, please segment each two-character Chinese word into smaller, meaningful units whenever possible. For example, the word 黑板 (blackboard) can be segmented into two smaller meaningful units 黑 (black) and 板 (board). In this case, both 黑 and 板 relate to the meaning of the word 黑板. By contrast, the word 蝴蝶 (butterfly) cannot be divided into 蝴 and 蝶, as neither 蝴 or 蝶is meaningful by itself, nor do they relate to the meaning of the word 蝴蝶 independently.

Below is a list of 30 Chinese words. Decide whether each word is segmentable or not following the above instructions.

*Note*. Test items were randomized. The correct answers are in bold.

Appendix 5. Chinese Morphological Awareness Test (continued)

|  |  |  |  |
| --- | --- | --- | --- |
| Word | Segmentability | | |
| 新年 | * **Segmentable** | * Non-segmentable | * I don’t know |
| 晚饭 | * **Segmentable** | * Non-segmentable | * I don’t know |
| 医院 | * **Segmentable** | * Non-segmentable | * I don’t know |
| 钢笔 | * **Segmentable** | * Non-segmentable | * I don’t know |
| 工厂 | * **Segmentable** | * Non-segmentable | * I don’t know |
| 鸡蛋 | * **Segmentable** | * Non-segmentable | * I don’t know |
| 动物 | * **Segmentable** | * Non-segmentable | * I don’t know |
| 飞机 | * **Segmentable** | * Non-segmentable | * I don’t know |
| 米饭 | * **Segmentable** | * Non-segmentable | * I don’t know |
| 牛奶 | * **Segmentable** | * Non-segmentable | * I don’t know |
| 足球 | * **Segmentable** | * Non-segmentable | * I don’t know |
| 冬天 | * **Segmentable** | * Non-segmentable | * I don’t know |
| 电车 | * **Segmentable** | * Non-segmentable | * I don’t know |
| 外国 | * **Segmentable** | * Non-segmentable | * I don’t know |
| 水果 | * **Segmentable** | * Non-segmentable | * I don’t know |
| 蚂蚁 | * Segmentable | * **Non-segmentable** | * I don’t know |
| 葡萄 | * Segmentable | * **Non-segmentable** | * I don’t know |
| 模特 | * Segmentable | * **Non-segmentable** | * I don’t know |
| 麻烦 | * Segmentable | * **Non-segmentable** | * I don’t know |
| 玻璃 | * Segmentable | * **Non-segmentable** | * I don’t know |
| 胡同 | * Segmentable | * **Non-segmentable** | * I don’t know |
| 吉他 | * Segmentable | * **Non-segmentable** | * I don’t know |
| 可乐 | * Segmentable | * **Non-segmentable** | * I don’t know |
| 客气 | * Segmentable | * **Non-segmentable** | * I don’t know |
| 垃圾 | * Segmentable | * **Non-segmentable** | * I don’t know |
| 沙发 | * Segmentable | * **Non-segmentable** | * I don’t know |
| 卡通 | * Segmentable | * **Non-segmentable** | * I don’t know |
| 东西 | * Segmentable | * **Non-segmentable** | * I don’t know |
| 沙拉 | * Segmentable | * **Non-segmentable** | * I don’t know |
| 乒乓 | * Segmentable | * **Non-segmentable** | * I don’t know |

*Note*. The correct answers are in bold.

# Appendix 6. Prior Lexical Knowledge Survey

**Below is a list of the words that you have seen during the reading sessions in the past two days. Rate how much you already know about each word in the following list before you participated in this experiment. Your responses are very important to this research. Respond carefully based on your own language experience.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Word | I had never  seen this word | I had seen this word, but I did not know its meaning | I had already seen this word and knew its meaning | I was already very familiar with this word, its meaning and its usage |
| 水母 |  |  |  |  |
| 背心 |  |  |  |  |
| 百合 |  |  |  |  |
| 把手 |  |  |  |  |
| 关节 |  |  |  |  |
| 天平 |  |  |  |  |
| 商船 |  |  |  |  |
| 铁丝 |  |  |  |  |
| 果园 |  |  |  |  |
| 油灯 |  |  |  |  |
| 村民 |  |  |  |  |
| 雪山 |  |  |  |  |

***Note*. The test items were randomized.**