COMPARING PICTURE-AIDED TRANSLATION WITH STORYBOARDS

A CASE STUDY ON THE TYPOLOGY OF COMPARISON

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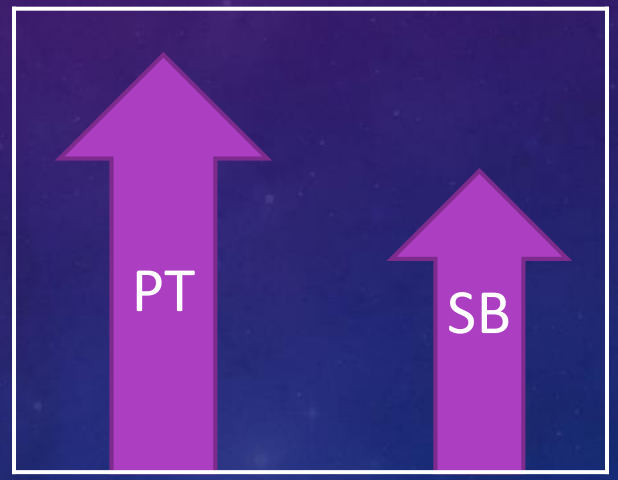
INTRODUCTION

- Semantic Fieldwork: Challenging

- Which methodology works best for eliciting data?
  - Standard semantic elicitation techniques
  - Storyboards
  - Picture-aided Translation

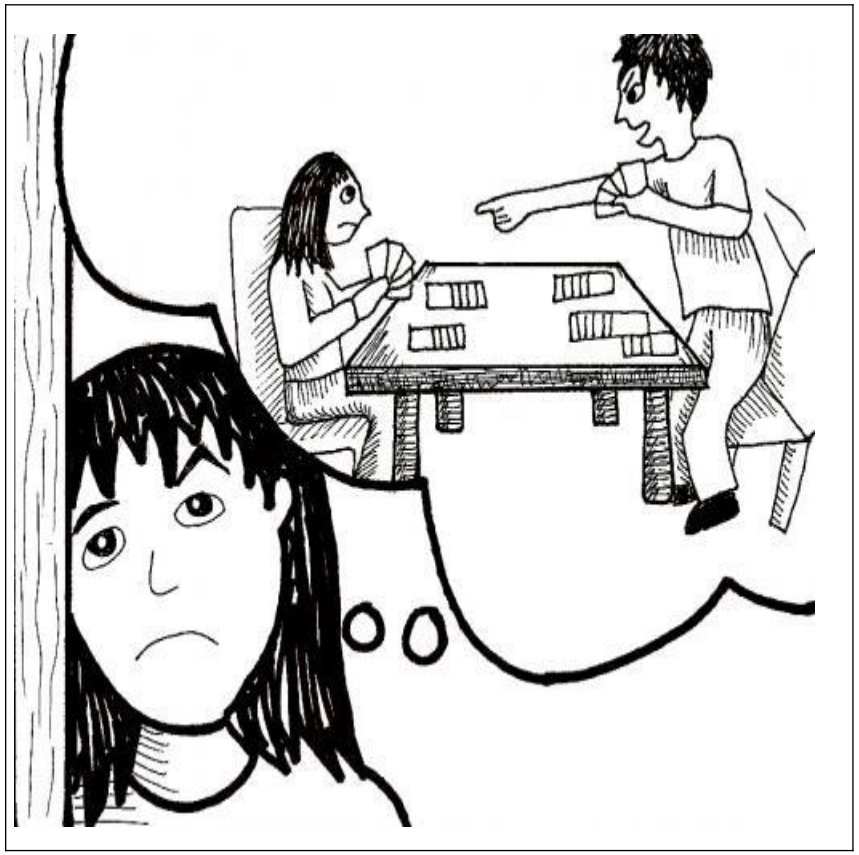
TAKE HOME MESSAGE:
PICTURE-AIDED TRANSLATION TASKS WORK BETTER THAN STORYBOARDS FOR SOME PURPOSES.



Picture-aided Translation vs. Storyboard

Storyboard

1.



2.

3.

ADVANTAGES OF STORYBOARDS (BURTON & MATTHEWSON, 2015)

- Spontaneous, natural utterances
- Minimal contact-language influence
- Do not need verbal context description, which minimizes misunderstanding of the context

HISTORY OF OUR PROJECT

- We started with a translation method.
- We intended to develop storyboards
- But they proved to be difficult to use.
  - In storyboards people forget the story.
- So we started looking into a compromise between translation and storyboards.

TRANSLATION QUESTIONNAIRE

Please translate this short story!

Please translate the sentences below into your native language. More literal translations are preferred, but only as long as they sound natural. Give as many translations as you like, and comments are welcome but not required.

Most of the kids who go to my school like to play music. *

(For example, there are 100 kids in my school, and 65 of them like to play music.)

Of all the kids in my school, I'm the one who plays the most instruments. *

(For example, I play 7 instruments, two of my friends play 6 instruments, and lots of people play one or two instruments, but nobody else plays more than 4.)

I don't like most of the music they play on the radio. *

My brother Hans also plays many instruments, but not more than me. *

PURE TRANSLATION TASK

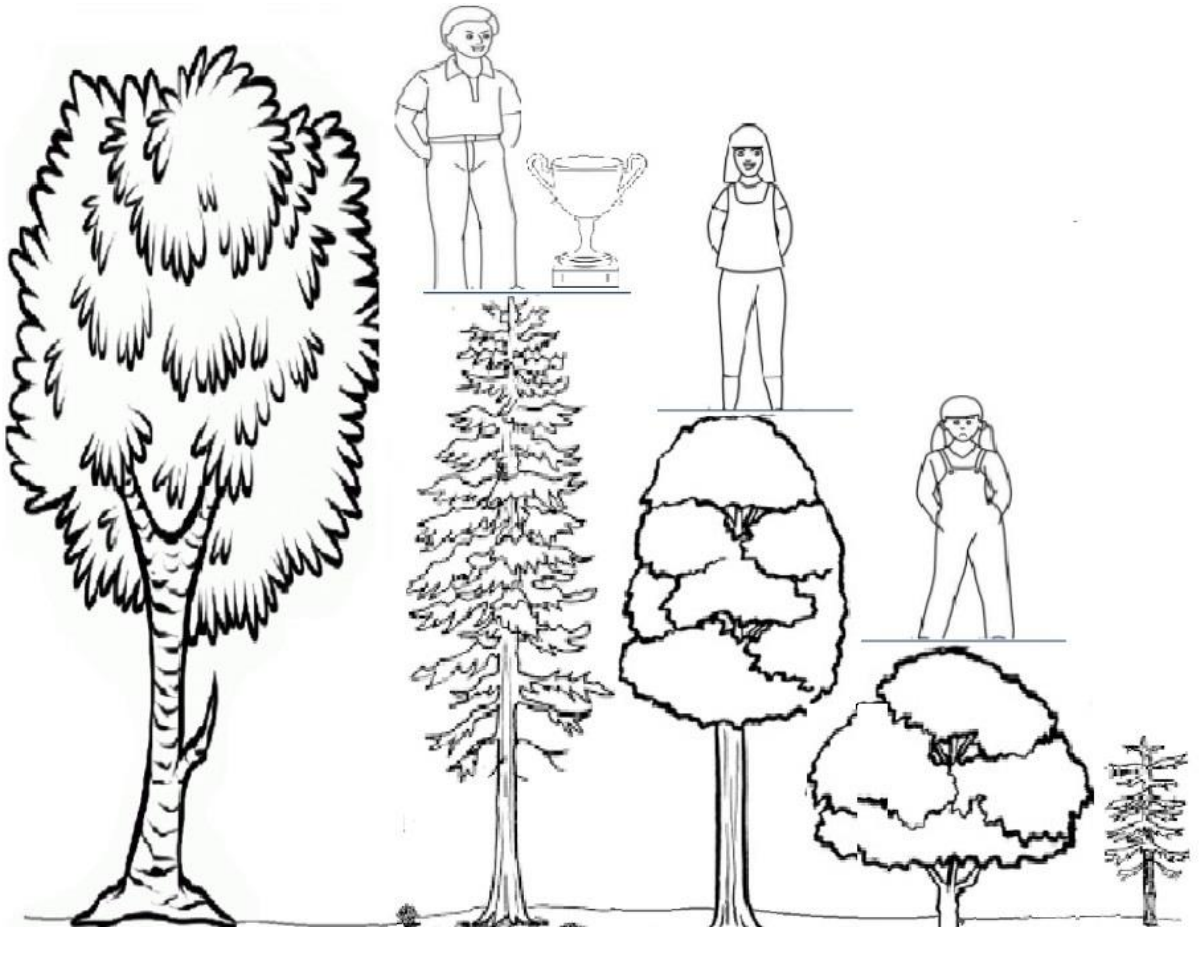
Advantages

- Convenient
- Easily improved
- Fast

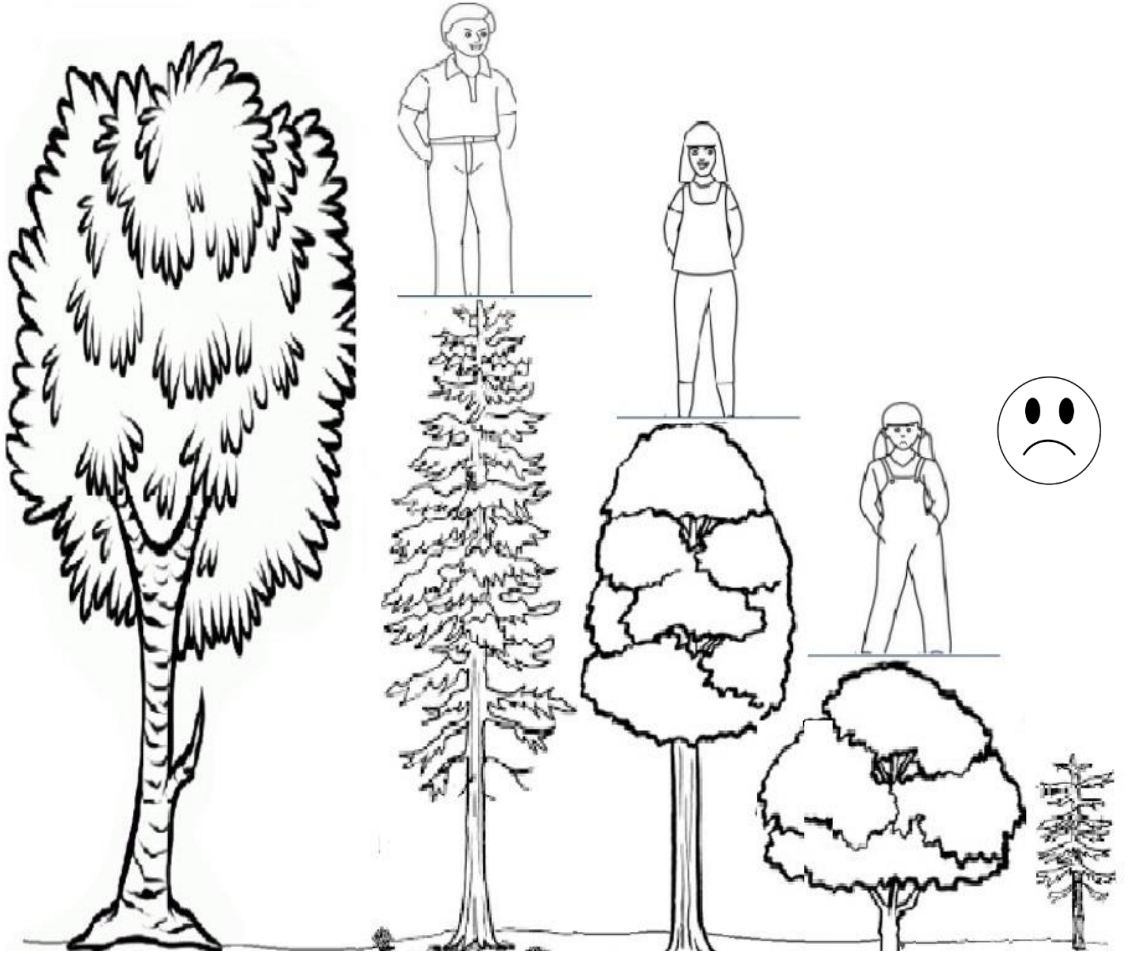
Disadvantages

- High risk of misinterpretation
- Difference between the spoken and written forms of the language (ex: Persian, different dialects of Arabic)
- Writing is cumbersome for the participants

Picture-aided Translation



5) Among the three kids, he was the one who climbed the tallest tree, so he won the contest.



6) Anna lost because she climbed the shortest tree.

RESEARCH QUESTIONS

RESEARCH QUESTIONS

1. Does the presence of the text (PT vs. SB) make data elicitation better or worse?
2. Do different stories give different results?
3. What practices work best in creating stimuli for semantic fieldwork?

METHOD

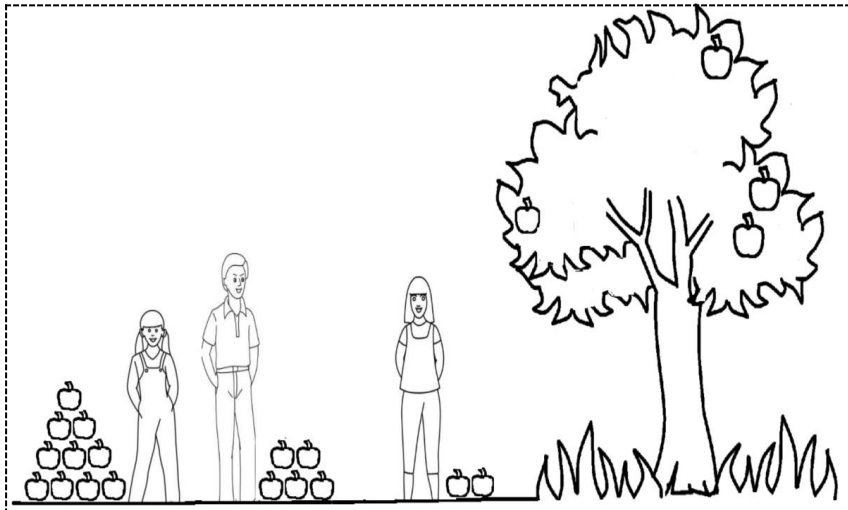
THREE MAIN STAGES

1. First Attempts
2. Pilot test
3. Main Study

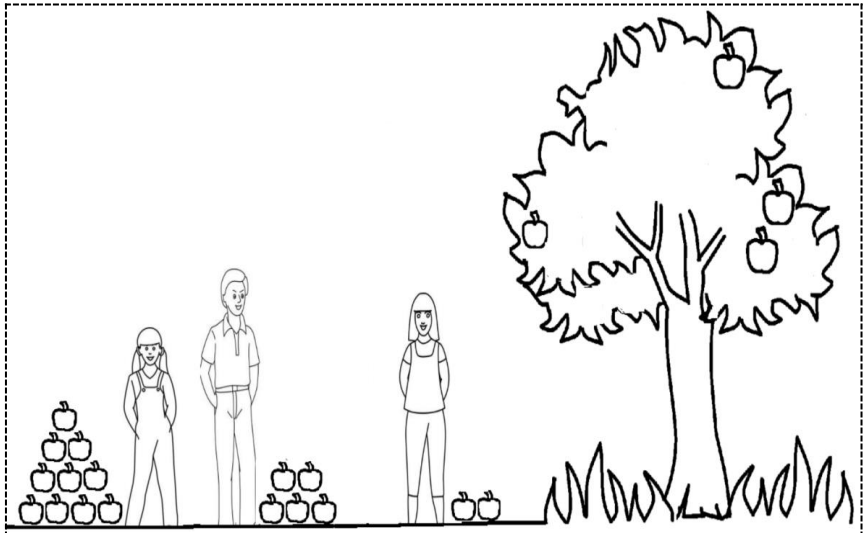
First attempts…

- Anna picked the most apples, her brother picked fewer apples.

Pilot Test

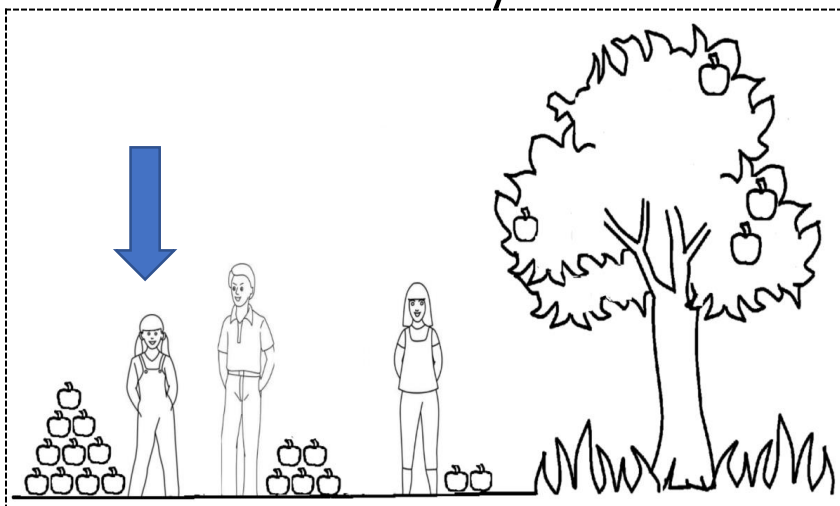


- Anna picked the most apples.

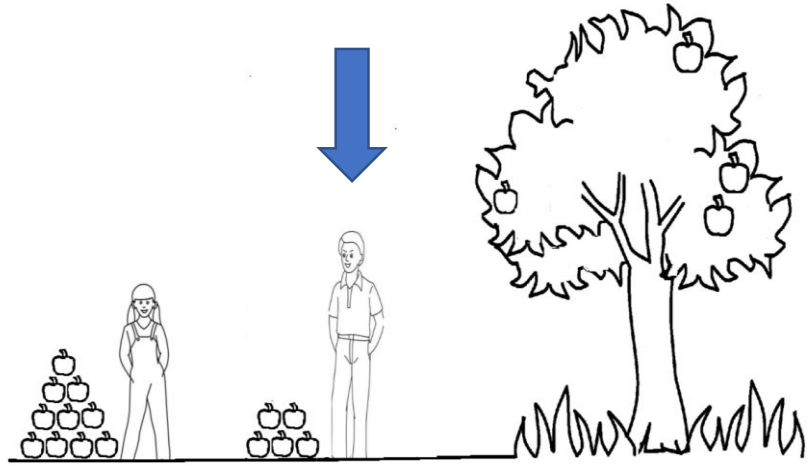


- Anna's brother picked fewer apples than Anna did.

Main Study



16) Anna picked the most apples.



17) Anna's brother picked fewer apples than Anna did.

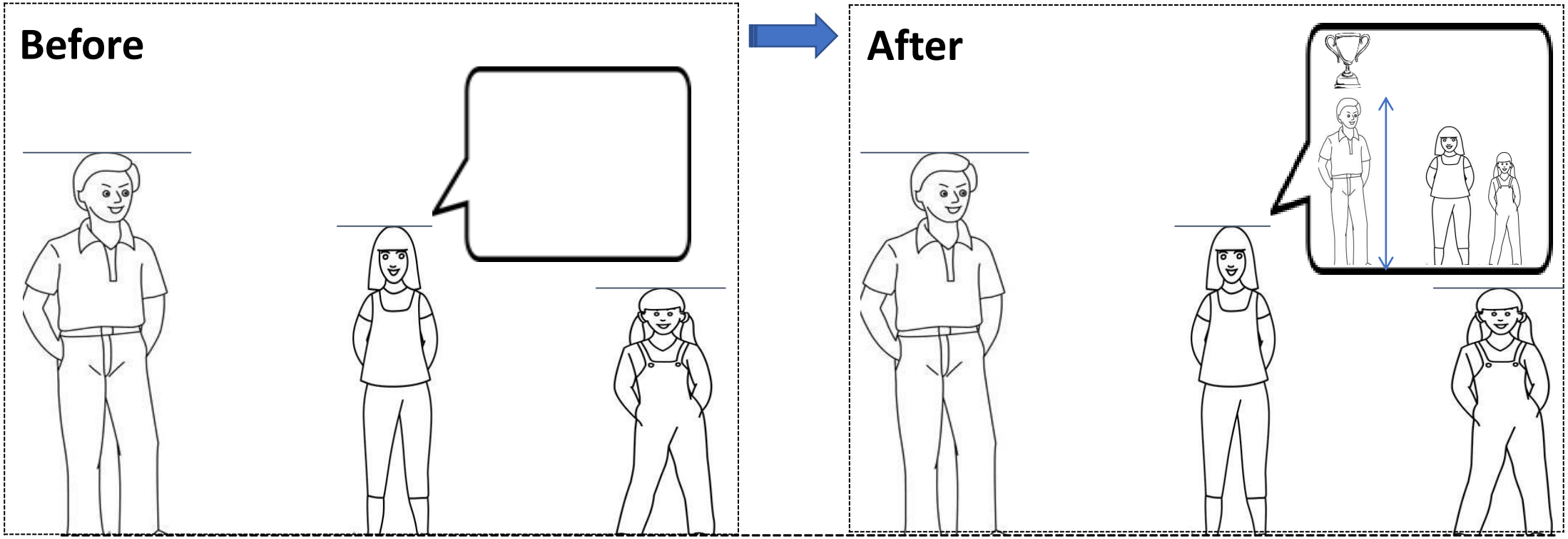
1. Developed a story
2. Created pictures
3. Conducted pre-pilot test on Persian, Swedish, Arabic
4. Modified the materials

1. Conducted the pilot test (3 Persian speakers)
2. Transcribed the audio
3. Scored the data
4. Modified the materials

1. Conducted the main study (8 Persian speakers)
2. Transcribed the audio
3. Scored the data
4. Analytical & statistical results

CHANGES AFTER THE PILOT TEST

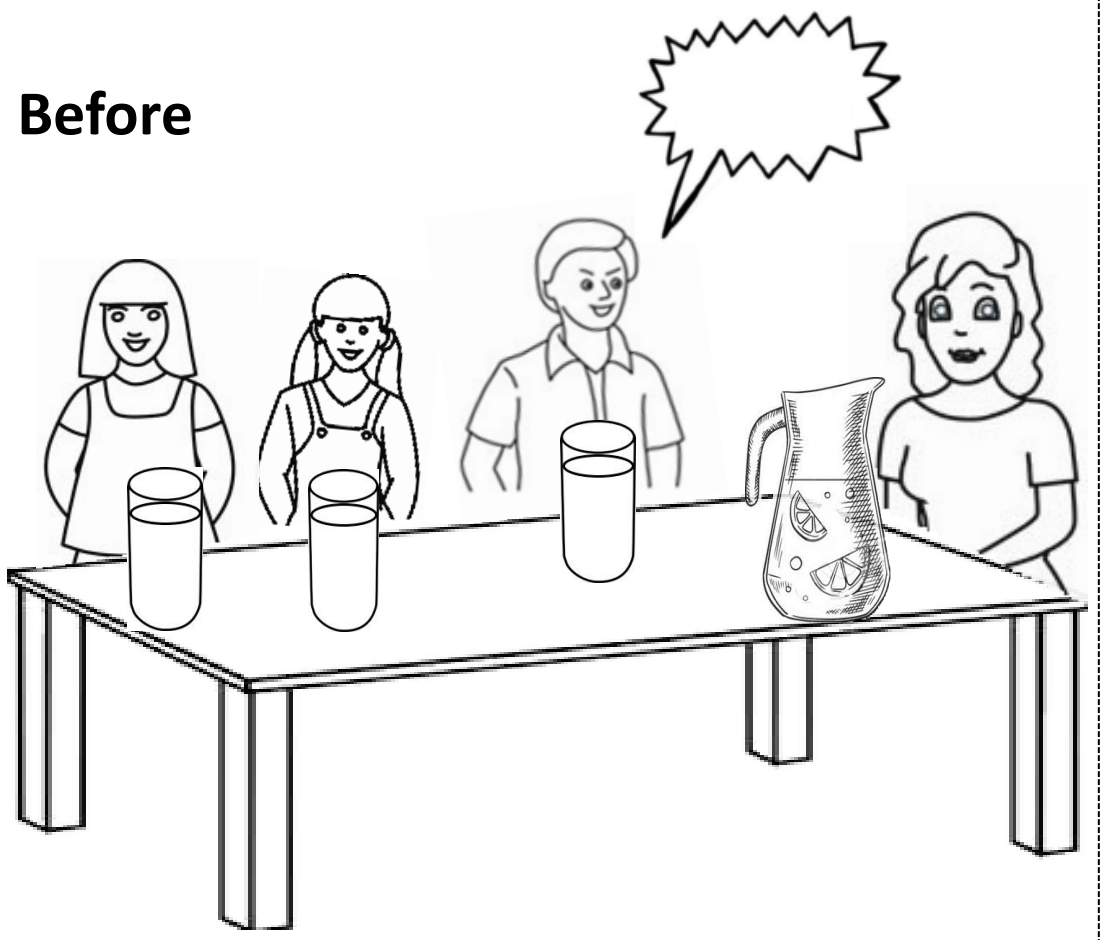
Example 1



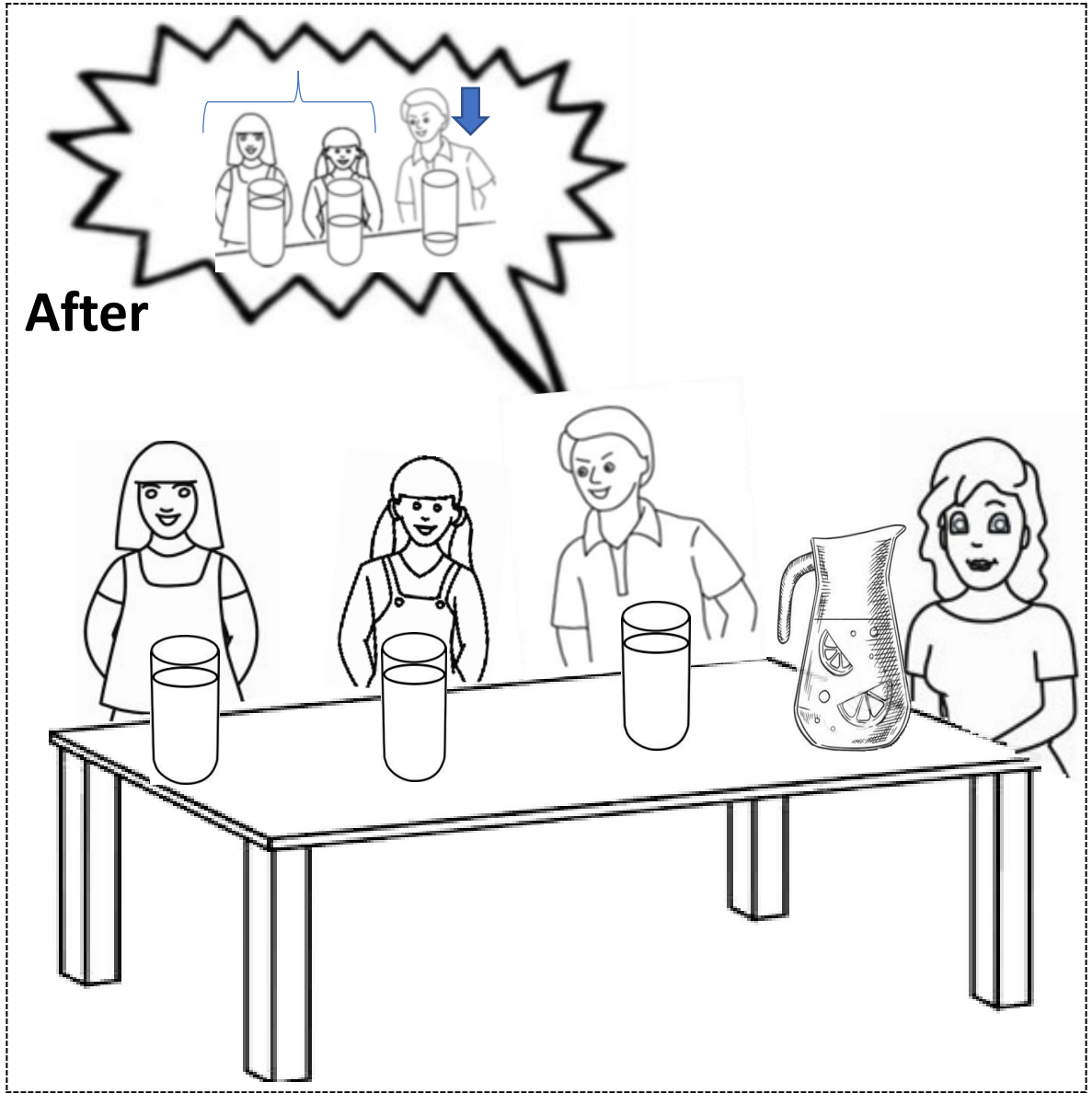
7) Anna's sister said to her, "The only reason that he won is that he is taller than us...

Example 2

Before

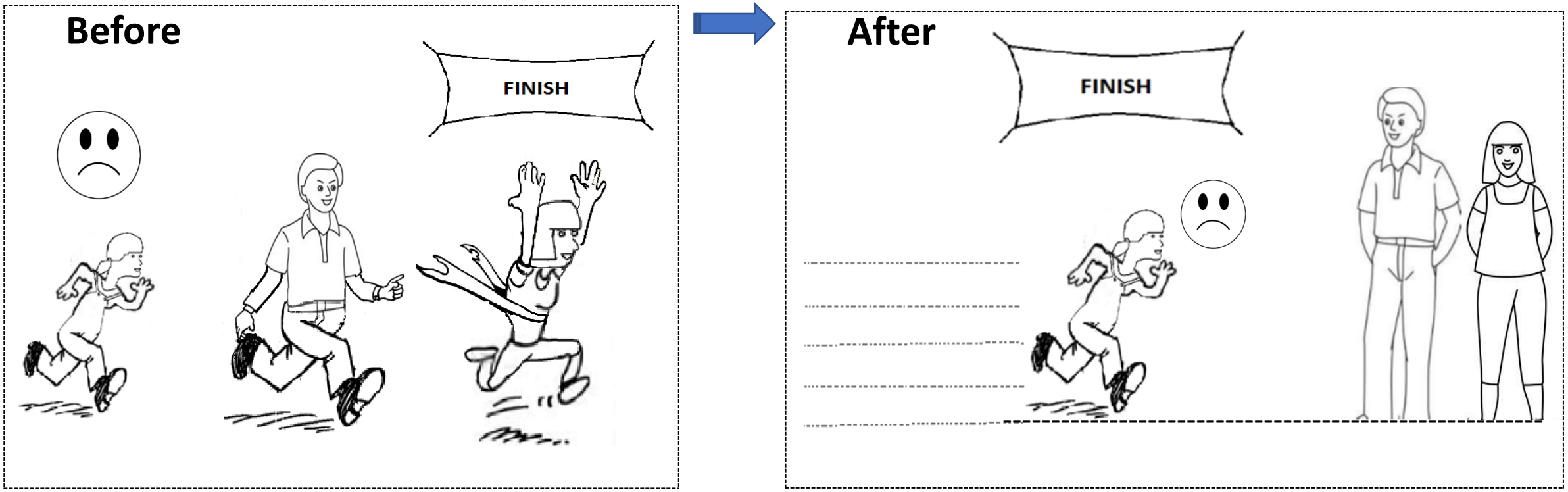


After



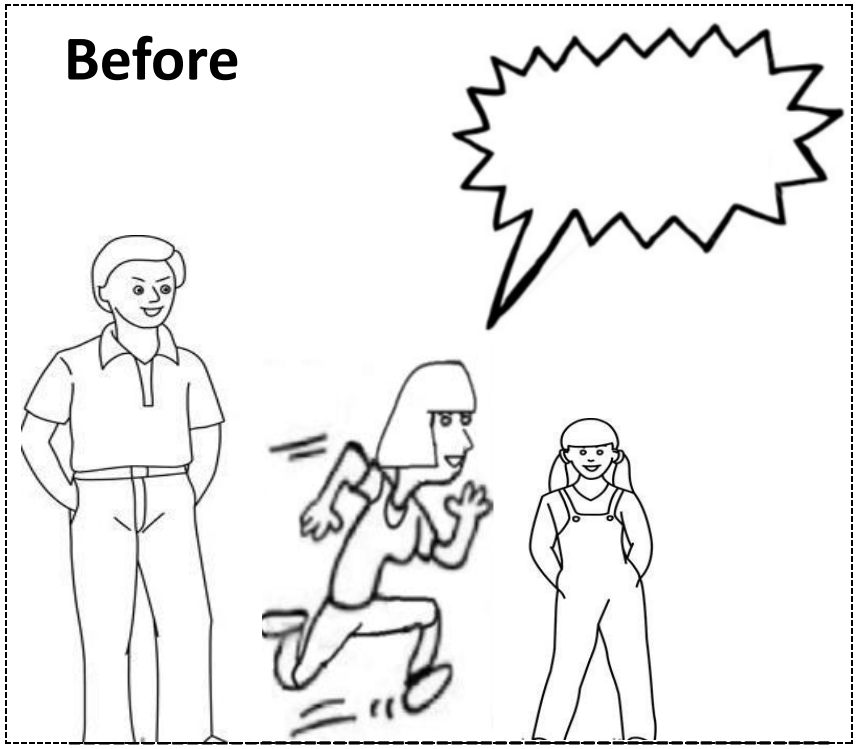
22) …I bet I can drink more juice than both of you.”

Example 3

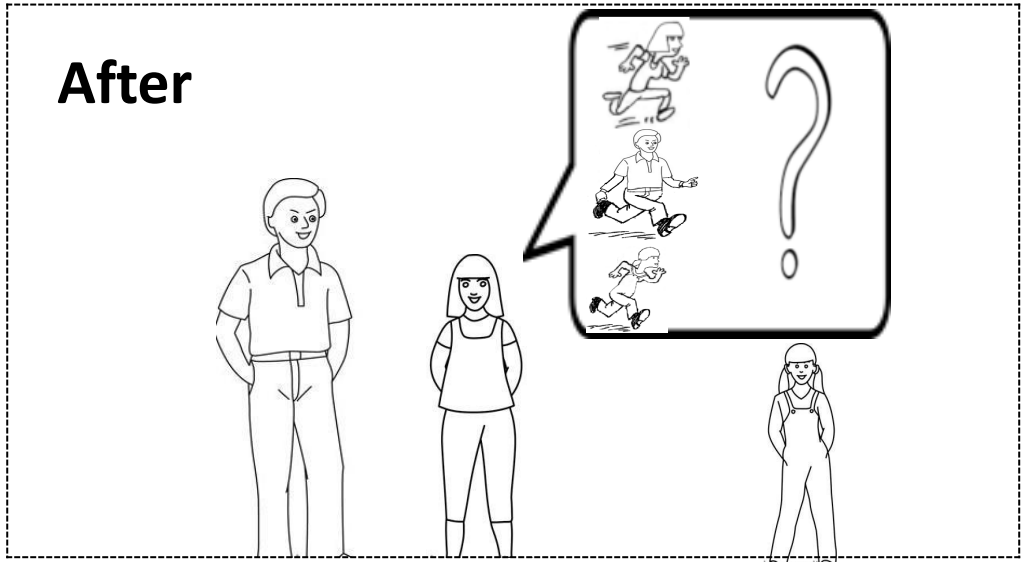


12) But Anna finished last.

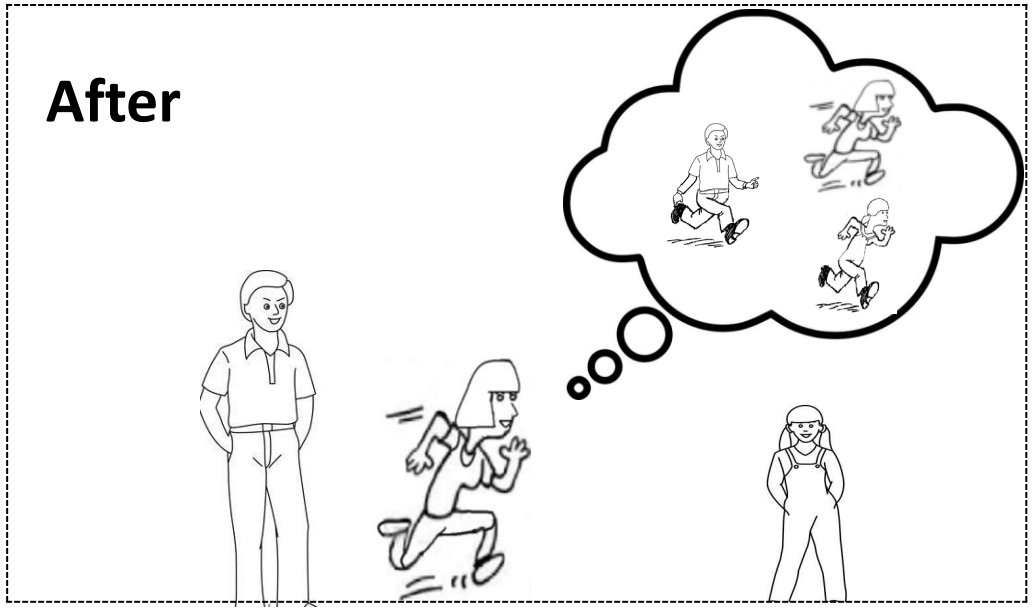
Example 4



(*)...What matters is who can run the fastest!
I bet we can run faster than he can."



8) ...Let's see who can run the fastest!



9) ...I bet we can run faster than he can.

THE MAIN STUDY

METHODOLOGY FOR THE MAIN STUDY

- 8 Persian speakers participated.
- Participants (3 female and 5 male) were between 30-42 years old, all highly educated and fluent in English.
- Each consultant participated in 4 tasks.
- Each data elicitation session took around 1 hour.

STORIES

- What Matters (WM)
  – By us
- Bake-off (BK)
  – From Totem Fields Storyboards

ORDER COUNTERBALANCING

	MethodOrder	
StoryOrder	SB before PT	PT before SB
WM before BK	SB/WM PT/WM SB/BK PT/BK (2 participants)	PT/WM SB/WM PT/BK SB/BK (2 participants)
BK before WM	SB/BK PT/BK SB/WM PT/WM (2 participants)	PT/BK SB/BK PT/WM SB/WM (2 participants)

FAITHFULNESS

How do we measure success in eliciting the target construction?

→Faithfulness

- 1 for close translation (target construction elicited)
- 0 for any of the following:
  - rough idea
  - forgotten
  - misinterpretation

PERSIAN COMPARATIVES

Morphological strategy:

Sara az Maryam zerang-tar ast-ø

Sara from Maryam smart-CMPR be.PRES-3sg

’Sara is smarter than Maryam’

PERSIAN SUPERLATIVES

1. Morphological:

Sara zerang-tar-in danešamuz ast-ø
Sara smart-CMPR-SUP student be.PRES-3sg
'Sara is the smartest student'

2. CMPR+ALL:

Sara az hame-ye danešamuz-an zerang-tar ast-ø
Sara from all-EZ student-PL smart-CMPR be.PRES-3sg
'Sara is the smartest student'

EXAMPLE OF FAITHFUL TRANSLATION

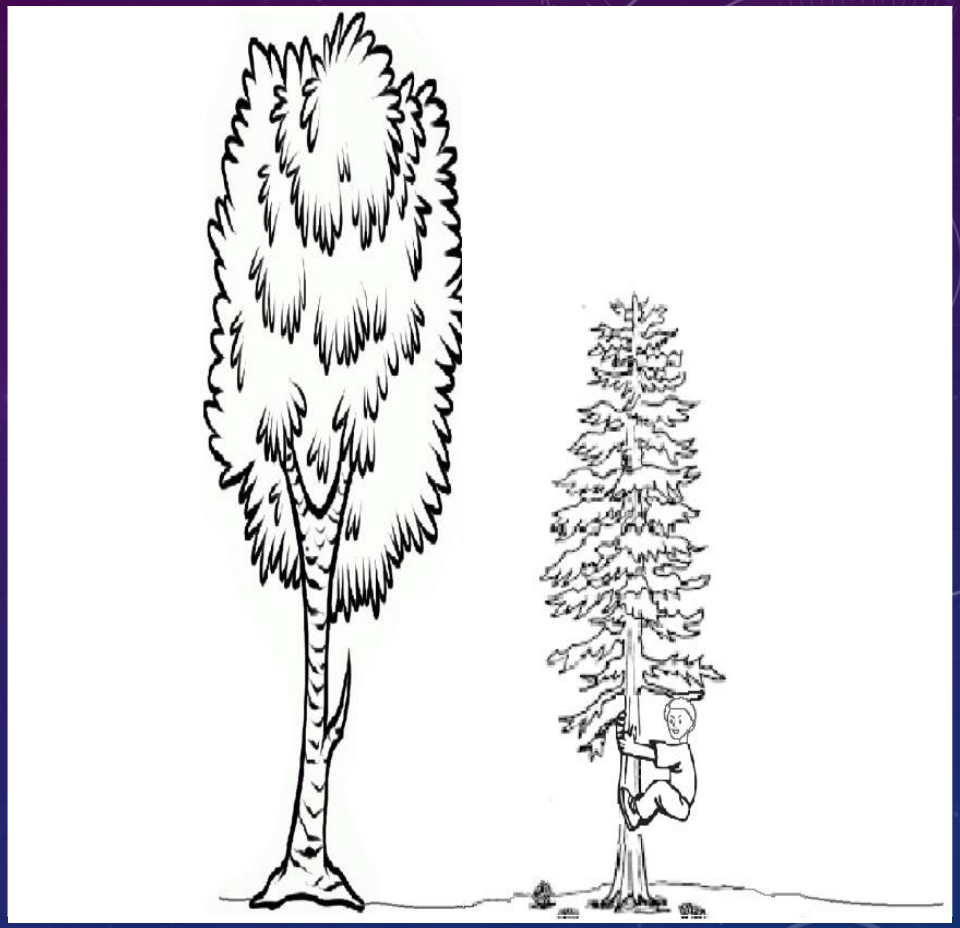
Persian:

Pas u az deraxt-e kutah-tar-i bala raft-ø

So he from tree-EZ short-CMPR-INDEF up go.PST-3sg

’So, he climbed a shorter tree’

Score: 1



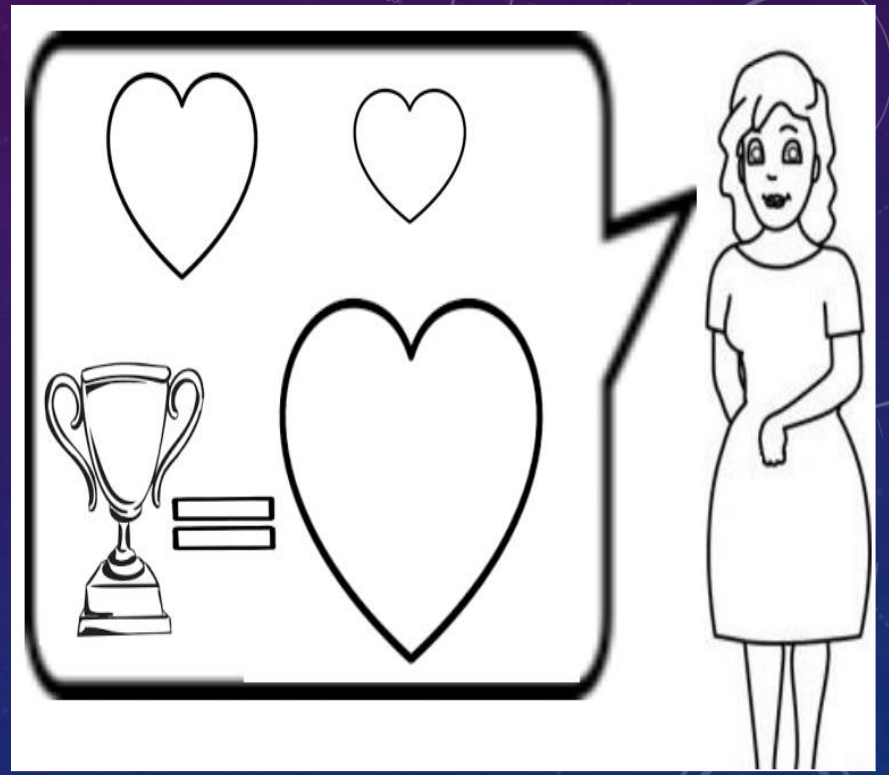
4. So he climbed a shorter tree.

EXAMPLE OF FAITHFUL TRANSLATION

Persian:

Barande kas-i-e ke bozorg-tar-in qalb ro dar-e
winner one-INDEF-is that big-CMPR-SPRL heart OM have-3sg
'The winner is the one who has the biggest heart'

Score: 1



31) The winner is the one who has the biggest heart.

EXAMPLE OF FAITHFUL TRANSLATION

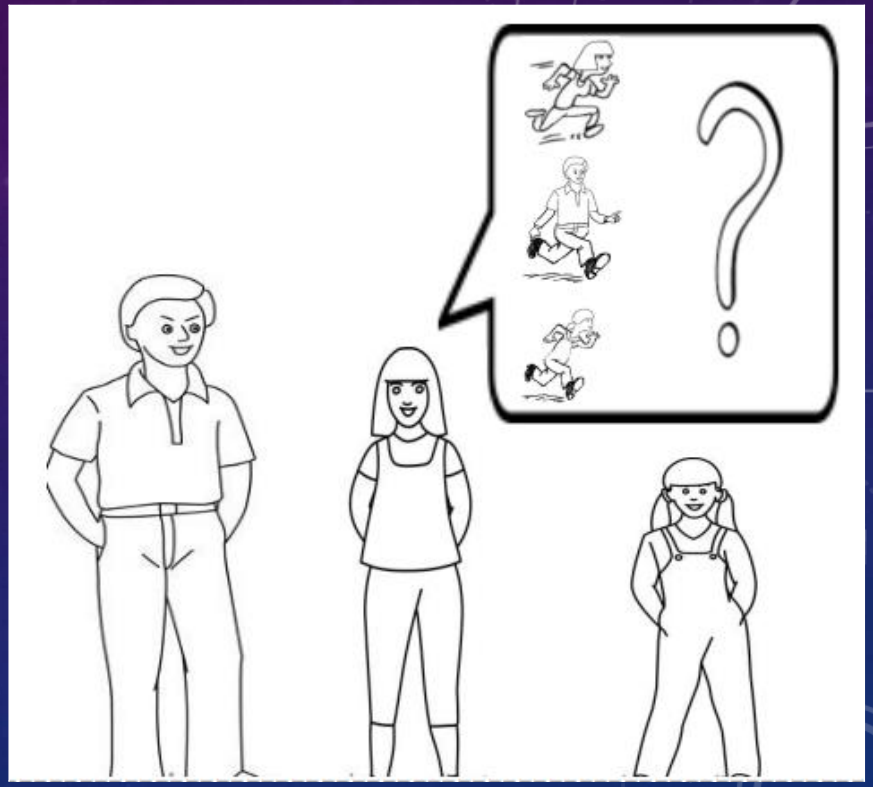
Persian:

…be-bin-im ki az hame sari-tar mi-do-e

SUBJ-see-1pl who from all fast-CMPR IMFV-run-3sg

’Let’s see who runs faster than all’

Score: 1



8)…Let's see who can run the fastest!

The M strategy is ungrammatical for adverbial superlatives.

*… be-bin-im ki sari-tar-in mi-do-e

EXAMPLE OF ’ROUGH IDEA’

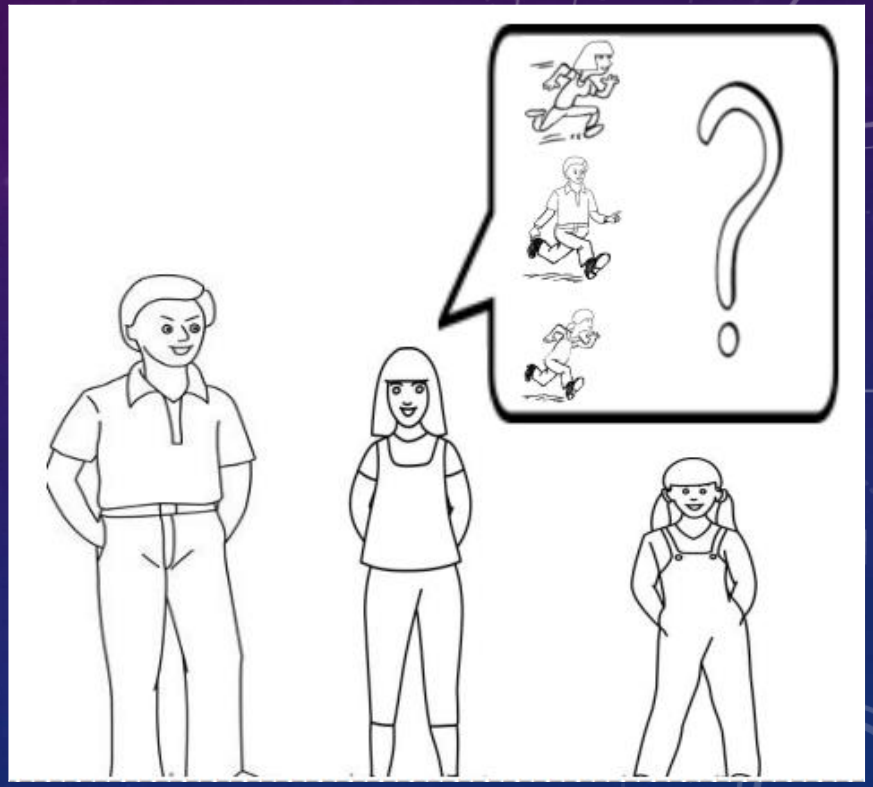
Persian:

…be-bin-im ki barande mi-šav-ad

SUBJ-see-1pl who winner IMFV-become.PRES-3sg

’…Let’s see who wins’

Score: 0



8)…Let's see who can run the fastest!

EXAMPLE OF ’MISINTERPRETATION’

21 ...Whoever drinks the most juice is the winner...

Persian:

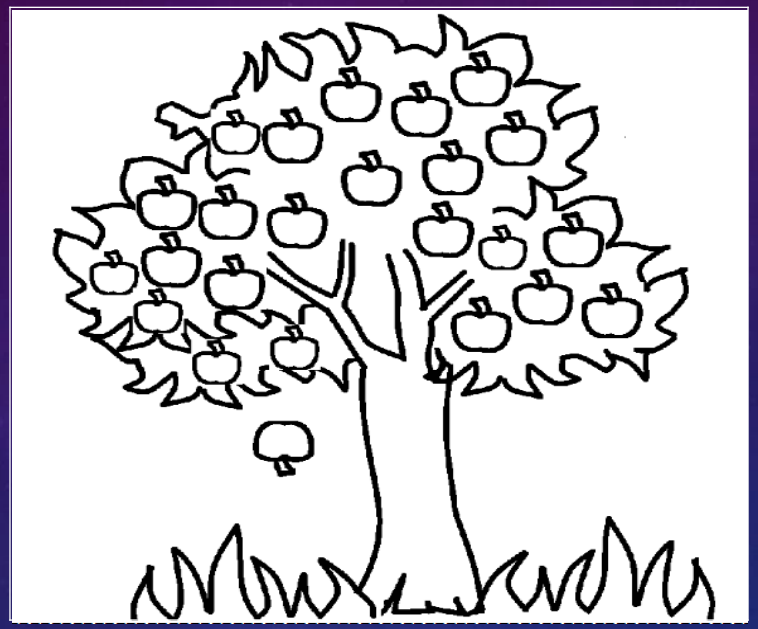
Kas-i	ke	biš-tar-e	abmive	ro	be-nush-e	barandeh	ast-ø
one-INDEF	that	much-CMPR-EZ	juice	OM	SUBJ-eat.PRES.3sg	winner	be.PRES-3sg

’The one who drinks most of the juice is the winner’

Score: 0

EXAMPLES OF ’FORGOTTEN’

3) So she to a baking contest challenged him



13) There was an apple tree in the garden, and many of the apples in the tree were ripe.

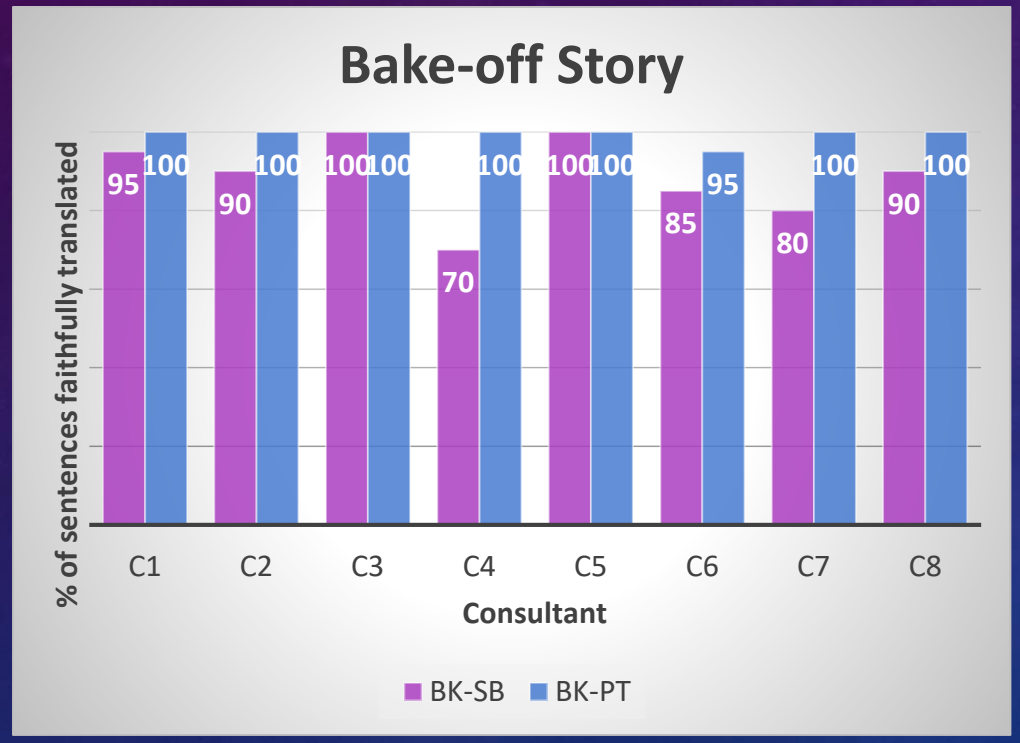
26) Together, they drank most of the juice.

Scores: 0

RESULTS

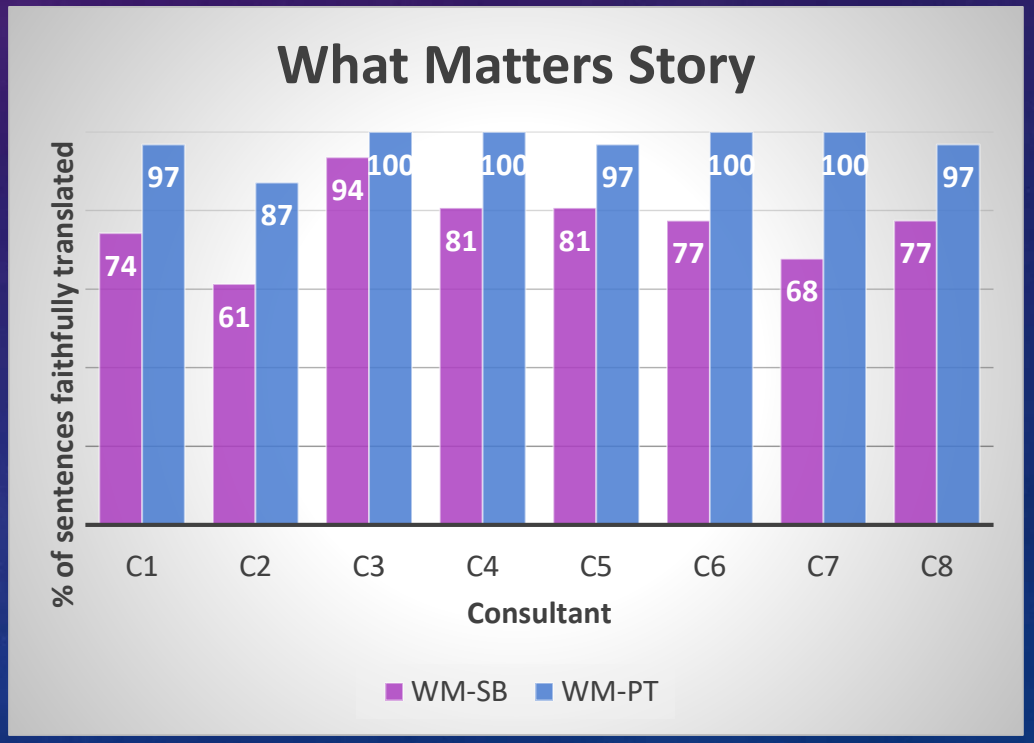
COMPARISON OF SB & PT

Higher faithfulness scores using PT for the Bake-off story



- Average increase: 10%

Higher faithfulness scores using PT for the What Matters story



- Average increase: 20%

STATISTICAL ANALYSIS WITH R

	Estimate	Std. Error	z value	Pr(>|z|)	
(Intercept)	4.6456	0.9375	4.956	7.21e-07	***
MethodSB	-3.0715	0.4429	-6.935	4.06e-12	***
StoryWM	-1.3053	0.5959	-2.190	0.0285	*
MethodOrder	0.3340	0.3531	0.946	0.3442	
StoryOrder	0.6696	0.3421	1.957	0.0503	.

Generalized linear mixed model

Fixed effects: Method, Story, MethodOrder, StoryOrder.

Random effects: Participant, Item.

- Method: Highly significant, big effect.
  - PT yielded higher faithfulness level.
- Story: Significant at 0.05 level.
  - Bake-off story higher faithfulness level.
- Order: No effect of order.

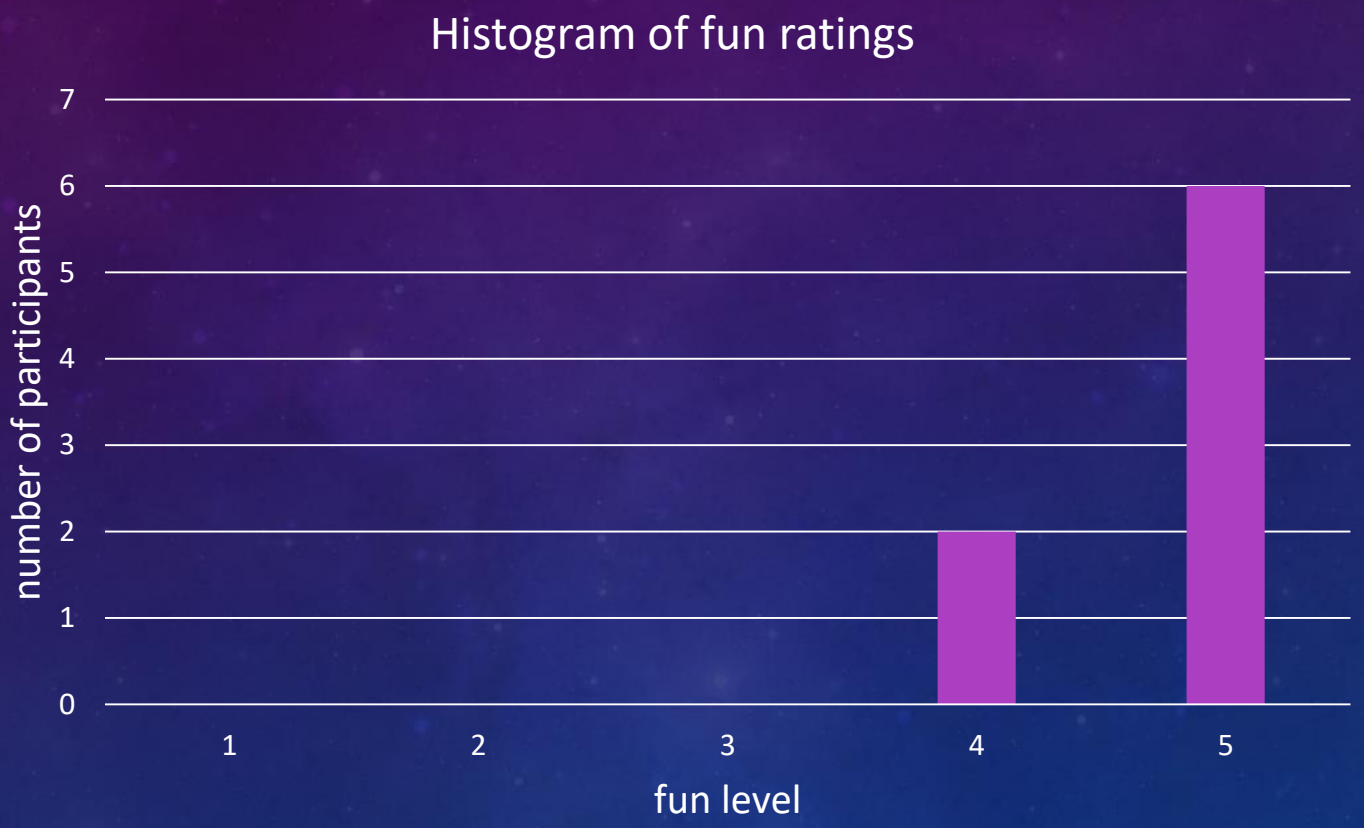
LME3 package, glmer Mod

```
m1 <- glmer(Faithfulness ~ Method + Story + MethodOrder + StoryOrder + (1|Participant) + (1|Item), family="binomial", data=data)
```

COMFORT

- 7 out of 8 participants felt more comfortable when text was present.
- One participant preferred having no text.

FUN


Histogram of fun ratings
number of participants
0
1
2
3
4
5
6
7
1
2
3
4
5
fun level

NATURALNESS

- Storyboards are designed to elicit more natural speech.
- Naturalness was not measured directly here.
- But there is some evidence that Persian speakers were able to resist the influence of the English text.

EXAMPLE: RESISTING ENGLISH TEXT

The English prompt:

13. "No, I can clean the fastest!"

Persian:

13. Na man sari-tar tamiz mi-kon-am
    No I fast-CMPR clean IPFV-do-1sg
    'No, I clean faster'

Ungrammatical:

*Na man sari-tar-in tamiz mi-kon-am
No I fast-CMPR-SPRL clean IPFV-do-1sg

CONCLUSIONS

1. Picture-aided translation yields more faithful translations
   - 20% for What Matters
   - 10% for Bake-off
2. More faithful translations for Bake-off than What Matters
   - Possibly due to length of story and sentences, difficulty, narrative structure…
3. Having the text present usually feels more comfortable
4. Picture-aided translation and storyboards are equally fun
5. Consultants can resist the influence of the English text?

PRACTICAL IMPLICATIONS

1. Translation, especially picture-aided translation, may suit your purposes as a fieldworker.
2. For storyboards, keep it short & simple.
3. For longer stories devide them up to sections.

MORE TIPS

1. One sentence per image
2. One target construction per sentence
3. Number the sentences
4. Make images realistic/fun, but not distracting
5. Place an arrow on the subject of the sentence
6. Hide participants that are not in the sentence

THANK YOU!