Ombiguity: the effects of priming a structure on the subsequent processing of a different structure

Muriël Eerkens – 3216942
Taal- en Cultuurstudies, Universiteit Utrecht
Bachelor eindwerkstuk, Taalwetenschap
Begeleider Frank Wijnen
Tweede lezer Sergey Avrutin
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Abstract

This experiment aims at finding an influence of syntactic priming on sentence processing. It uses locally ambiguous sentences with a late disambiguation. Semantically and syntactically there are no big differences between sentences. The processing of these sentences is measured by recording the reading time of the target sentences. These target sentences are constructed with the syntactically ambiguous word *om* either as preposition or as complementizer. Three kinds of primes were used: The same structure, the competing structure or none of the two structures (no prime). The recorded reading times of the different target sentences resulted in no significant differences for the different types of prime. This makes it impossible to draw conclusions with respect to my predictions. It is suggested that (a) more participants be included in a next experiment, and that (b) the materials be more carefully checked for acceptability (and plausibility).[1]

[1] I would like to thank Jorik Geutjes for his part in designing the original outline of this experiment. I'd like to thank Hedwig for being available on gmail-chat for anything I needed, Frans for making his students available as participants, Margriet for her help in constructing and evaluating the final sentences and Nienke for her help in finding the right words.

Introduction

According to Thothathiri and Snedeker (2007): “Syntactic priming during language production has been pervasive and well-studied. Hearing, reading, speaking or writing a sentence with a given structure increases the probability of subsequently producing the same structure, regardless of whether the prime and target share lexical content. In contrast, syntactic priming during comprehension has proven more elusive, fuelling claims that comprehension is less dependent on general syntactic representations and more dependent on lexical knowledge.” With three experiments that recorded eye-tracking during act-out tasks, Thothathiri and Snedeker found “a role for abstract structural information during comprehension as well as production.” Abstract structural information is syntactic information that is not lexically bound. A lot of information that is needed for parsing is included in the lexical information of a word. It is interesting to know if there also exists something like abstract syntactical information, not bound to a specific word but more abstract. This abstract information could for example be inside a syntactic structure. That is something that will be researched in this experiment: If effects of syntactic priming can be found, abstract structural information exists and influences language processing.

Like Thothathiri and Snedeker, I have used locally ambiguous sentences with minimal semantic differences and a late disambiguation. In an earlier experiment than Thothathiri and Snedeker’s, Arai, Van Gompel and Scheepers (2006) found only lexically bound priming effects. Only when the same verb was used in the prime and the target sentence they detected effects of priming. They did not find any effect of abstract structural information. Thothathiri and Snedeker found convincing evidence for the results of this experiment and why it differed from their own findings. One of the arguments they reported was that they looked for priming effects at a different point in the sentence than Arai et al. Arai et al. looked for priming effects prior to the onset of the first postverbal noun while Thothathiri and Snedeker looked for effects subsequent to noun-onset. This led to the conclusion that priming is not only lexically dependent. Based on the conclusions of Thothathiri and Snedeker the experiment presented here uses no lexical triggers which can cause a semantic priming effect. All the prime and target sentences have unique words that do not appear elsewhere.

In their experiments, Thothathiri and Snedeker used dative structures: an indirect object versus a prepositional phrase. I have used a structure that has a syntactically ambiguous word: *om*. One structure uses *om* as a preposition, the other structure gives it a complementizer function. In Dutch, *om* as complementizer is optional. In the sentences with a prepositional structure, the word *om* (the optional complementizer) is not realized. Instead a prepositional phrase is used with *om* as the preposition, which means 'around'. In (1) an example is given for both structures, A. uses *om* as a complementizer, B. uses *om* as preposition. In the first sentence *om* isn't translated, to make the gloss more understandable. The 'to' of the gloss (both in A. and B.) is a translation of the Dutch *te*, which is the indicator of an infinitival verb.

(1) A. Hij belooft om de toren te beklimmen.

He promises -- the tower to climb.

B. Hij belooft om de toren te wandelen.

He promises around the tower to walk.

Only at the verb at the end of the sentence it becomes clear which of the two functions should be assigned to *om*. Out of these two constructions, the one with *om* as complementizer is more frequent.

These two different structures should serve well to answer the research question: "Can the processing of a locally ambiguous sentence be influenced by priming?" My hypothesis is that a sentence is easier to process when the same structure has just been processed. I assume that the abstract structural information will not only be used for the one sentence but will stay activated to influence later parsing.

The technique I chose to study this is self-paced reading. I expect people will need less time to read a sentence if they processed the same structure just before. If they have the structure 'activated' in their head, the reading time will be shortened. But if they get a sentence with an initial ambiguous part that is disambiguated in a different way than the prime sentence, for example the prime uses *om* as complementizer and the target sentence uses *om* as preposition, then the reading time will not be shorter. The kind of prime before the target sentence is the independent variable, the reading time of the target sentence is the dependent variable.

This prediction of a prolonged reading time will be tested for two different cases. In the experiment both types of construction will be used as target sentences: the effect of processing a sentence with *om* as complementizer before reading a sentence with *om* as preposition will be measured, as well as the effect in the inverse situation.

Method

- Materials

Three lists were constructed of 56 sentences each. Each list contained 12 target sentences, 8 prime sentences and 36 filler sentences. Half of the target sentences and half of the prime sentences had a prepositional construction (*om* was used as a preposition), the other half had a complementizer construction (*om* was a complementizer). The filler sentences all had an infinitival verb at the end that required the infinitival indicator *te*. This made all the sentences more similar, ensuring that the target sentences would not stand out. An example is given in (2), where A. is a target sentence and B. a filler.

(2) A. Alex verzoekt haar om de hei te rennen.

Alex requests her around the heath to run.

B. Sara wint door goed haar best te doen.

Sara wins by good her best to do.

All the sentences were grammatically correct. They contained only regular words, the selection of the words to be used was done on intuition. All the sentences started with a Dutch proper name. Never was the same name used more than once.

To create a Latin Square design, the sentences were presented in three different lists. This made it possible to present every target sentence with the three different primes: a prime of the same construction (same), a prime of the contrasting construction (contrasting) and no prime of interest (none). The target sentences were always presented at the same place: Sentences 9., 12., 18., 21., 25., 29., 33., 38., 41., 46., 51., 56. The three lists can be found in Appendix A. An overview of the types of prime per target sentence is given in table 1. The type of structure of the target sentence is given in brackets, (prep) for prepositional use of *om* and (comp) for complementizer.

Target sentence	**List A prime type**	**List B prime type**	**List C prime type**
9. (prep)	Contrasting	Same	None
12. (comp)	None	Same	Contrasting
18. (comp)	Same	Contrasting	None

21. (prep)	None	Contrasting	Same
25. (prep)	Same	None	Contrasting
29. (comp)	Contrasting	None	Same
33. (comp)	None	Same	Contrasting
38. (comp)	Contrasting	None	Same
41. (prep)	Contrasting	Same	None
46. (prep)	None	Contrasting	Same
51. (comp)	Same	Contrasting	None
56. (prep)	Same	None	Contrasting

Table 1: The division per list of prime types in relation to the target sentences

The program used to present the sentences and record the reading times was DMDX.[2] This was installed on a laptop and used during the experiment. The input of the sentences in DMDX can be found in Appendix B for list A. There were no differences between the three input lists besides the order of the sentences.

- Participants

There were 25 people who took part in the experiment. They were all native Dutch speakers aged between 14 and 17. It was a homogeneous group of students who went to school at the same high level grammar school.

Of the 25 participants, the results of 9 participants were not taken into consideration for the final results. One of them turned out to be dyslexic. One other said afterwards that he thought it was a memory test. He had tried to memorize all the sentences, recording very long reading times. The other seven stated at the end of the experiment that the word *om* occured very frequently or they even said that these sentences were ungrammatical to them. Noticing the manipulated factor during the experiment could confound the results. This is the reason that their data has not been taken into consideration.

In the end, the results of list A and B was used for five participants and the reading times of list C for six participants.

- Procedure

[2] http://www.indiana.edu/~clcl/Q550_WWW/DMDX.htm

The participants were one by one taken apart from class to a separate room. They were instructed that they would see one sentence per time on the screen of a laptop. After the sentence *Druk op de spatiebalk.* (Press the spacebar.) the sentences appeared one by one on the screen. Whenever a new sentence appeared, a software clock started running which measured the time until the clock was stopped. This was done by pressing the shift button. Subsequently the space bar needed to be pressed to make the next sentence appear. So the participants were instructed to read the sentence at their own pace, press shift when they were finished and then press space to receive the next sentence. The reading times of all 56 sentences were stored in a file on the laptop.

After sentences 25. and 42. the word *Pauze* appeared in the screen. The participants were instructed to tell the experimenter when they reached this. In the first break, I asked them if they were able to snap their fingers and if they could show it. In the second break, they were asked to perform another finger movement. This was purely to let the participants take their eyes and focus off the screen, so they wouldn't start pressing the keys too automatically. I chose not to ask a question about the content or something entirely unrelated because this could be too much of a distraction. Changing from the passive reading to the more active hand movements was assumed to make the participants focused enough again.

After the self-paced reading test, the participants were asked some questions. The most important questions were their age and if they had noticed anything in the sentences. Whenever the participant mentioned something with *om* or with ungrammaticality in the target sentences this was noted.

Results

The target sentences are divided by two factors. Within and between these levels, the reading times are measured and will now be compared. The first level consists of the two types of *om*; the second level consists of the three types of prime. This has lead to the following target sentences, or dependent variables:

Omtype	**Primetype**	**Dependent variables**
Prepositional	Same	Prepsame
	Contrasting	Prepcontr
	No	Prepno
Complementizer	Same	Compsame
	Contrasting	Compcontr
	No	Compno

Table 2: Structure of the data

For a first comparison, the average reading times of all the target sentences with a prepositional *om* and the ones with a complementizer *om* are shown in figure 1. Also shown is the average reading times of the sentences with a prime of the same structure, of a contrasting structure or with no prime:

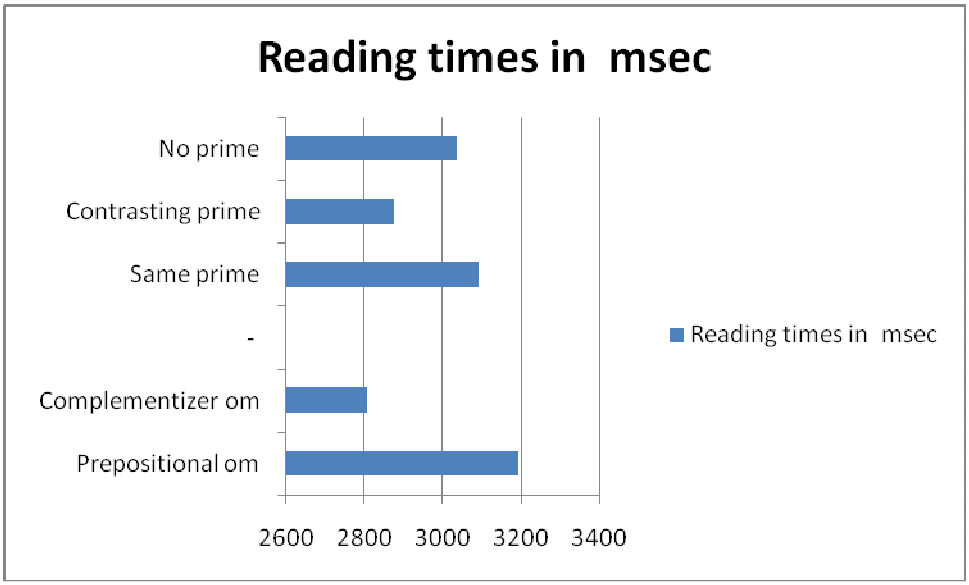

Figure 1: The averaged reading times in milliseconds for the three prime types and the two *om* types.

There seems to be a shorter reading time for sentences with a contrasting prime; the prime of the same structure has resulted in the longest reading times. A bigger difference is visible between the reading times of the types of *om.* Sentences with a complementizer structure have an evidently shorter reading time than the sentences with a prepositional structure.

To see if the differences above are significant and if it is possible to draw any conclusions from the experiment, a repeated measures ANOVA has been done. In this test the measurements are checked against the design of the experiment as well. The design consisted of the three Lists, randomly assigned to three different groups of participants. This factor is included in the results to see if there is no influence of the presentation of the experiment to the participants.

Following Hugo Quené's (2003) advice, I will show the outcomes of Wilks' Lambda.

Test	**Results**
Omtype	F(1,13)=11,512; p=0,005
Omtype*List	F(2,13)=0,412; p=0,671
Primetype	F(2,12)=1,527; p=0,257
Primetype*List	F(4,24)=3,936; p=0,014
Omtype*Primetype	F(2,12)=2,032; p=0,174
Omtype*Primetype*List	F(4,24)=6,962; p=0,001

Table 3: Significance levels for the different interactions, alpha=0,05

Testing the sphericity assumption with Mauchley's test gives no significance (0 for omtype, 0,665 for primetype and 0,083 for omtype*primetype). There is no need for correction of the F ratio.

Discussion

The numbers in table 3 show some interesting results. Three comparisons have a significant difference, three don't. I will start with repeating my predictions and how they should be reflected in the significance levels.

In this experiment, I tried to find an effect of priming a syntactic construction on the subsequent processing of a different structure. I compared the reading times of sentences that have either been primed with the same construction, primed with a contrasting structure or not primed with a significant structure. I was mostly interested in the effects of the type of prime. The effects of the two types of *om* are interesting to analyse but not part of the results I intended to find. The factor 'List' should not influence the results, since this was only part of the design.

Looking at the results in Table 3 it turns out that my predictions were not confirmed. The 'Omtype' did cause a significant difference in reading time (p=0,005). This is explainable by the fact that there was a big difference between the two constructions: the complementizer *om* is a regular structure, *om* as preposition in these sentences is grammatical but slightly unnatural. I had predicted to find results for the 'Primetype', but they did not show a significant difference (p=0,257). Seen together with the factor 'List', the factor 'Primetype' became significantly different (p=0,014). This mostly indicates that the factor 'List' did have influence on the average reading times. Also the difference between the significance level for Omtype multiplied with Primetype (p=0,174) and these two multiplied with List (p=0,001) is indicating a rather big influence by the design of the experiment.

The fact that there is an influence of the group that the participants were in on their average reading times, can be explained in two ways. The first is that the random assignment of lists to participants lead to the coincidental grouping of slower readers to one and the same group. Because the group per list was so small (either 5 or 6 participants) this seems a probable explanation. The ordering of the sentences could have also had an effect. For example if a prepositional construction (which is more difficult to read, see figure 1) is presented first, or is presented in a cluster, it could take longer. To find the real manner how the design has played a part in the experiment, more information and analysis is needed.

In figure 1 it seems that the type of prime does make a difference in reading time. According to table 1 the factor Primetype has a p-value of 0,257, so not a significant one. It is interesting to see in the figure that the contrasting prime actually resulted in a shorter reading time. The predicted result that priming a structure with the same structure would shorten the reading time, actually turned out the opposite. A possible explanation could be that reading the prepositional structure after the same prime, would make people to extra focus on the target sentence. Being presented with the same difficult construction twice in a row could make the participant actively trying to understand the grammaticality of the sentence. This effect would not show with a contrasting prime. Another explanation could be that the processing of a prepositional target with a complementizer prime could be easier because of the fact that the sentences are in essential the same structure. In the prepositional structure *om* as complementizer is just not realized. In its place the prepositional *om* is presented. The fact that a sentence with the same construction precedes the difficult sentence could have made the processing easier.

There are some other, more general factors that have played a part in not getting the predicted results. The group of participants was very small, especially after removing the results of the participants that had noticed the target sentences. There could have been more people that noticed this but just didn't mention it to me. Only the group of people that mentioned the target sentences when asked for a reaction at the end of the experiment were removed. Secondly, the group was homogeneous and highly educated. They were even extra focused on language and language structures because of their education (highest level of high school in the Netherlands, with a focus on the classic languages).

Some other small influences could have affected the results: the instructions were not always the same and not always evenly clear. Some participants started reading the sentences out loud, one participant skipped the first pause and the assignment was not always understood the same way. As mentioned before, one participant understood the experiment to be a memorizing task even though this was never instructed in any way. This could mean that other participants also understood a different task than what was actually asked of them. Because I didn't want to give away any hints beforehand, it was not easy to be more clear on what they were supposed to do during the experiment. Also the need to press two different keys per sentence could have somehow influenced the results. One

participant asked already during the instructions if the shift-key was linked to stopping the time. The two different keys made the experiment more complicated.

The last factor that could have caused the lack of predicted results is the test material itself. The difference between the two structures was very big, one regular structure and one that was irregular. The latter was even so irregular that it felt ungrammatical to some of the participants. This is visible in the significant difference in reading time (3194 versus 2807, α=0,005, see figure 1 and table 3); this inequality could have been a confounding factor. The experiment of Thothathiri and Snedeker used items that were semantically equivalent. In my experiment I tried the same, but during the experiment it turned out that the two different structures were not equivalent in level of acceptability. This should have been tested more extensively before doing the actual experiment. The effect this possibly had is that the prepositional structures needed to be re-read every time, independent of being primed or not.

It is not possible to draw any useful conclusions based on these results. To make that possible, the sample should be bigger and maybe more divers. The difference in acceptability between the two structures should be tested more extensively, which could possibly lead to the conclusion that there is too much difference between the two construction types to be tested equally. With a bigger sample group and more extensive research on the acceptability of the two different structures, it should be possible to conclude if there are effects of syntactic priming and if there is a role for abstract structural information in the processing of sentences.

References

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Appendices

- Appendix A
  The three lists, A, B and C with the orders of the sentences as presented to the participants. In these lists, the target sentences are **bold**. The prime sentences are *italic*. The sentences with *om* as complementizer are underlined.
- Appendix B
  The input for DMDX for list A.

- Appendix A

List A

1. Sara wint door goed haar best te doen.
2. Joris reageert meteen zonder eerst te luisteren.
3. Pim wacht in plaats van zich te haasten.
4. Kasper is te opgewonden om zijn mond te houden.
5. Lianne wordt bruin door in de zon te zitten.
6. De vlag hangt aan de stok te wapperen.
7. Marlies gaat naar buiten na te hebben betaald.
8. *Laura leert snel om de zandbak te hinkelen.*
9. **Lisa poogt ook om het wak te schaatsen.**
10. Henri staat bij de kassa af te rekenen.
11. Gerard stapt de boot uit na te hebben gevaren.
12. **Emma verzuimt alweer om de tafels te dekken.**
13. Minoes zit naar de muis te staren.
14. Karel is veel te oud om te rennen.
15. Thomas blaast zonder gedronken te hebben.
16. Marit zakt door niet goed op te letten.
17. *Susanne legt zich op om de schutting te verven.*
18. **Jan probeert alvast om de toren te beklimmen.**
19. Koen huilt na zijn hoofd te hebben gestoten.
20. Annemarie loopt de hele tijd te toeteren.
21. **Eva vergeet vaak om de hoek te kijken.**
22. Jim eet een hamburger in plaats van te diëten.
23. Isabelle valt op door haar haar rood te verven.
24. *De leerling tracht om de kikker te onderzoeken.*
25. **Eline doet haar best om de rots te zwemmen.**
26. Bello jankt in plaats van op het bot te kluiven.
27. Wilma wankelt zonder geduwd te zijn.
28. *Kees verbiedt hen om geld te pokeren.*
29. **Joost ziet ertegenop om het grasveld te maaien.**
30. Eric schildert met vingerverf in plaats van te schetsen.
31. Jelle danst bij een dansschool zonder zich te schamen.
32. Sanne fietst in plaats van de bus te pakken.
33. **Nienke verplicht hem om een ring te kopen.**
34. Opa Bas ligt nu nog steeds diep te slapen.
35. Rosana haast zich na de wekker te hebben gehoord.
36. Philip zoekt zijn sleutels door overal te kijken.
37. *Pieter geeft opdracht om de pion te skaten.*
38. **Mieke weigert om het oude gebouw te betreden.**
39. Caroline hoopt al jaren een auto te krijgen.
40. *Marie belooft hem om het bos te fietsen.*
41. **Alex verzoekt haar om de hei te rennen.**
42. Peter-Jan krijgt alles zonder moeite te doen.
43. Babette slurpt in plaats van netjes te eten.
44. Lilian maakt snel vrienden door spontaan te zijn.
45. Jaap is te langzaam om eerste te kunnen worden.

46. Jasper helpt hen om het eiland te varen.
47. Niels strompelt na zijn voet te hebben gestoten.
48. Gijs racet over straat zonder uit te kijken.
49. Ron leert snel door zich alleen op te sluiten.
50. Rianne besluit eindelijk om het weiland te huren.
51. Lotte dwingt hem om zijn huiswerk te maken.
52. Masha staat eindelijk weer de afwas te doen.
53. Benjamin schreeuwt zonder te worden gehoord.
54. Ingrid hangt haar kleren uit na ze te hebben gewassen.
55. Tom laat na om zijn vriendin te feliciteren.
56. Michiel vraagt ons om de stoelen te dansen.

List B

1. Sara wint door goed haar best te doen.
2. Joris reageert meteen zonder eerst te luisteren.
3. Pim wacht in plaats van zich te haasten.
4. Kasper is te opgewonden om zijn mond te houden.
5. Lianne wordt bruin door in de zon te zitten.
6. De vlag hangt aan de stok te wapperen.
7. Marlies gaat naar buiten na te hebben betaald.
8. *Susanne legt zich op om de schutting te verven.*
9. **Lisa poogt ook om het wak te schaatsen.**
10. Henri staat bij de kassa af te rekenen.
11. *De leerling tracht om de kikker te onderzoeken.*
12. **Emma verzuimt alweer om de tafels te dekken.**
13. Minoes zit naar de muis te staren.
14. Karel is veel te oud om te rennen.
15. Thomas blaast zonder gedronken te hebben.
16. Marit zakt door niet goed op te letten.
17. *Laura leert snel om de zandbak te hinkelen.*
18. **Jan probeert alvast om de toren te beklimmen.**
19. Annemarie loopt de hele tijd te toeteren.
20. *Kees verbiedt hen om geld te pokeren.*
21. Eva vergeet vaak om de hoek te kijken.
22. Jim eet een hamburger in plaats van te diëten.
23. Isabelle valt op door haar haar rood te verven.
24. Gerard stapt de boot uit na te hebben gevaren.
25. Eline doet haar best om de rots te zwemmen.
26. Bello jankt in plaats van op het bot te kluiven.
27. Koen huilt na zijn hoofd te hebben gestoten.
28. Wilma wankelt zonder geduwd te zijn.
29. Joost ziet ertegenop om het grasveld te maaien.
30. Eric schildert met vingerverf in plaats van te schetsen.
31. Jelle danst bij een dansschool zonder zich te schamen.
32. Rianne besluit eindelijk om het weiland te huren.
33. Nienke verplicht hem om een ring te kopen.
34. Opa Bas ligt nu nog steeds diep te slapen.
35. Rosana haast zich na de wekker te hebben gehoord.

36. Philip zoekt zijn sleutels door overal te kijken.
37. Sanne fietst in plaats van de bus te pakken.
38. Mieke weigert om het oude gebouw te betreden.
39. Caroline hoopt al jaren een auto te krijgen.
40. Tom laat na om zijn vriendin te feliciteren.
41. Alex verzoekt haar om de hei te rennen.
42. Peter-Jan krijgt alles zonder moeite te doen.
43. Babette slurpt in plaats van netjes te eten.
44. Jaap is te langzaam om eerste te kunnen worden.
45. Marie belooft hem om het bos te fietsen.
46. Jasper helpt hen om het eiland te varen.
47. Lilian maakt snel vrienden door spontaan te zijn.
48. Niels strompelt na zijn voet te hebben gestoten.
49. Ron leert snel door zich alleen op te sluiten.
50. Pieter geeft opdracht om de pion te skaten.
51. Lotte dwingt hem om zijn huiswerk te maken.
52. Gijs racet over straat zonder uit te kijken.
53. Masha staat eindelijk weer de afwas te doen.
54. Benjamin schreeuwt zonder te worden gehoord.
55. Ingrid hangt haar kleren uit na ze te hebben gewassen.
56. Michiel vraagt ons om de stoelen te dansen.

List C

1. Sara wint door goed haar best te doen.
2. Joris reageert meteen zonder eerst te luisteren.
3. Pim wacht in plaats van zich te haasten.
4. Kasper is te opgewonden om zijn mond te houden.
5. Lianne wordt bruin door in de zon te zitten.
6. De vlag hangt aan de stok te wapperen.
7. Marlies gaat naar buiten na te hebben betaald.
8. Wilma wankelt zonder geduwd te zijn.
9. **Lisa poogt ook om het wak te schaatsen.**
10. Henri staat bij de kassa af te rekenen.
11. Laura leert snel om de zandbak te hinkelen.
12. Emma verzuimt alweer om de tafels te dekken.
13. Minoes zit naar de muis te staren.
14. Karel is veel te oud om te rennen.
15. Isabelle valt op door haar haar rood te verven.
16. Thomas blaast zonder gedronken te hebben.
17. Marit zakt door niet goed op te letten.
18. Jan probeert alvast om de toren te beklimmen.
19. Annemarie loopt de hele tijd te toeteren.
20. De leerling tracht om de kikker te onderzoeken.
21. Eva vergeet vaak om de hoek te kijken.
22. Jim eet een hamburger in plaats van te diëten.
23. Gerard stapt de boot uit na te hebben gevaren.
24. Kees verbiedt hen om geld te pokeren.
25. Eline doet haar best om de rots te zwemmen.

26. Bello jankt in plaats van op het bot te kluiven.
27. Koen huilt na zijn hoofd te hebben gestoten.
28. Susanne legt zich op om de schutting te verven.
29. Joost ziet ertegenop om het grasveld te maaien.
30. Eric schildert met vingerverf in plaats van te schetsen.
31. Jelle danst bij een dansschool zonder zich te schamen.
32. Marie belooft hem om het bos te fietsen.
33. Nienke verplicht hem om een ring te kopen.
34. Opa Bas ligt nu nog steeds diep te slapen.
35. Rosana haast zich na de wekker te hebben gehoord.
36. Philip zoekt zijn sleutels door overal te kijken.
37. Tom laat na om zijn vriendin te feliciteren.
38. Mieke weigert om het oude gebouw te betreden.
39. Sanne fietst in plaats van de bus te pakken.
40. Caroline hoopt al jaren een auto te krijgen.
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43. Babette slurpt in plaats van netjes te eten.
44. Jaap is te langzaam om eerste te kunnen worden.
45. Rianne besluit eindelijk om het weiland te huren.
46. Jasper helpt hen om het eiland te varen.
47. Lilian maakt snel vrienden door spontaan te zijn.
48. Niels strompelt na zijn voet te hebben gestoten.
49. Benjamin schreeuwt zonder te worden gehoord.
50. Ron leert snel door zich alleen op te sluiten.
51. Lotte dwingt hem om zijn huiswerk te maken.
52. Gijs racet over straat zonder uit te kijken.
53. Masha staat eindelijk weer de afwas te doen.
54. Ingrid hangt haar kleren uit na ze te hebben gewassen.
55. Pieter geeft opdracht om de pion te skaten.
56. Michiel vraagt ons om de stoelen te dansen.

- Appendix B

<ep> <fd 60> <t 99999999999> <id keyboard> <dbc 210210210> <dfs 30> <dwc 0> <vm 1024,768,768,16,60> <nfb> <eop>

00 “Druk op de spatiebalk.”;
+01 *“Sara wint door goed haar best te doen.”;
+02 *“Joris reageert meteen zonder eerst te luisteren.”;
+03 *“Pim wacht in plaats van zich te haasten.”;
+04 *“Kasper is te opgewonden om zijn mond te houden.”;
+05 *“Lianne wordt bruin door in de zon te zitten.”;
+06 *“De vlag hangt aan de stok te wapperen.”;
+07 *“Marlies gaat naar buiten na te hebben betaald.”;
+08 *“Laura leert snel om de zandbak te hinkelen.”;
+09 *“Lisa poogt ook om het wak te schaatsen.”;
+10 *“Henri staat bij de kassa af te rekenen.”;
+11 *“Gerard stapt de boot uit na te hebben gevaren.”;
+12 *“Emma verzuimt alweer om de tafels te dekken.”;
+13 *“Minoes zit naar de muis te staren.”;
+14 *“Karel is veel te oud om te rennen.”;
+15 *“Thomas blaast zonder gedronken te hebben.”;
+16 *“Marit zakt door niet goed op te letten.”;
+17 *“Susanne legt zich op om de schutting te verven.”;
+18 *“Jan probeert alvast om de toren te beklimmen.”;
+19 *“Koen huilt na zijn hoofd te hebben gestoten.”;
+20 *“Annemarie loopt de hele tijd te toeteren.”;
+21 *“Eva vergeet vaak om de hoek te kijken.”;
+22 *“Jim eet een hamburger in plaats van te diëten.”;
+23 *“Isabelle valt op door haar haar rood te verven.”;
+24 *“De leerling tracht om de kikker te onderzoeken.”;
+25 *“Eline doet haar best om de rots te zwemmen.”;
00 “Pauze.”;
+26 *“Bello jankt in plaats van op het bot te kluiven.”;
+27 *“Wilma wankelt zonder geduwd te zijn.”;
+28 *“Kees verbiedt hen om geld te pokeren.”;
+29 *“Joost ziet ertegenop om het grasveld te maaien.”;
+30 *“Eric schildert met vingerverf in plaats van te schetsen.”;
+31 *“Jelle danst bij een dansschool zonder zich te schamen.”;
+32 *“Sanne fietst in plaats van de bus te pakken.”;
+33 *“Nienke verplicht hem om een ring te kopen.”;
+34 *“Opa Bas ligt nu nog steeds diep te slapen.”;
+35 *“Rosana haast zich na de wekker te hebben gehoord.”;
+36 *“Philip zoekt zijn sleutels door overal te kijken.”;
+37 *“Pieter geeft opdracht om de pion te skaten.”;
+38 *“Mieke weigert om het oude gebouw te betreden.”;
+39 *“Caroline hoopt al jaren een auto te krijgen.”;
+40 *“Marie belooft hem om het bos te fietsen.”;

+41 *“Alex verzoekt haar om de hei te rennen.”;
+42 *“Peter-Jan krijgt alles zonder moeite te doen.”;
00 “Pauze.”;
+43 *“Babette slurpt in plaats van netjes te eten.”;
+44 *“Lilian maakt snel vrienden door spontaan te zijn.”;
+45 *“Jaap is te langzaam om eerste te kunnen worden.”;
+46 *“Jasper helpt hen om het eiland te varen.”;
+47 *“Niels strompelt na zijn voet te hebben gestoten.”;
+48 *“Gijs racet over straat zonder uit te kijken.”;
+49 *“Ron leert snel door zich alleen op te sluiten.”;
+50 *“Rianne besluit eindelijk om het weiland te huren.”;
+51 *“Lotte dwingt hem om zijn huiswerk te maken.”;
+52 *“Masha staat eindelijk weer de afwas te doen.”;
+53 *“Benjamin schreeuwt zonder te worden gehoord.”;
+54 *“Ingrid hangt haar kleren uit na ze te hebben gewassen.”;
+55 *“Tom laat na om zijn vriendin te feliciteren.”;
+56 *“Michiel vraagt ons om de stoelen te dansen.”;
00 “Dit was het einde. Bedankt!”;