**Master thesis:**

**An investigation into the acquisition of the BA construction in Mandarin for second language learners: Dutch and English native speakers compared**

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## 1. Introduction to my topic

In this thesis I will conduct research regarding the acquisition of the BA construction among native Dutch second language learners of Mandarin. I will look at the following research question: *Are native Dutch speaking learners of Mandarin as a second language faster in understanding certain features of the BA structure and in acquiring the BA structure then native English speaking learners of Mandarin?* This question is suggested by the fact that English is an SVO language, while Dutch is basically an SOV language. Since the BA construction is an SOV structure, it could be possible that based on their first language, Dutch learners of Mandarin are faster than English learners of Mandarin in acquiring this structure. At the end of my research I expect to be able to show some interesting points regarding this question, which could be a basis for more research on this question. In order to look at this question, I will first explain more about the BA construction itself and about the most important ideas of second language acquisition which are relevant for my research. Furthermore, I will look at previous research that has been done on the acquisition of the BA structure with English native learners of Mandarin. Then, I will describe my own research, in which I will test the three main constraints of the BA construction and the overall use of the BA construction on native Dutch learners of Mandarin from Leiden University. I will compare my own research to the previous research I will have described, and look at some possible similarities and differences in the results. From these comparisons I expect to be able to draw some conclusions with regard to the research question.

## 2. Features and constraints of the BA construction

First of all I will discuss some of the general features of the BA construction. The BA construction changes the word order of the sentence, and can in some cases be used instead of the SVO sentence. The most important feature of the BA construction is that it has an SOV word order. An example of this structure we can see below.

Tā BA wǒde yīfú xǐ-gānjing-le

He BA my clothes wash-clean-particle

He washed my clothes.

The SVO sentence of this example would look as following:

Tā xǐ-gānjing-le wǒde yīfú

He wash-clean-particle my clothes

He washed my clothes.

There are cases in which a BA structure is obligatory or preferred over an SVO sentence. In other cases the usage of BA is optional. The usage of BA is however not always possible and is subjected to

several constraints. I will discuss the three main constraints of the BA construction. Xiong (1996) in Xu (2012: 65), describes the BA construction as expressing "the change one entity related to another entity undergoes". According to Huang et al. (2009:154), the BA construction is used when "an object is affected, dealt with, or disposed of". In other words, this means that the object of a sentence in which a BA construction is used should always be "affected" or 'influenced' by the verb phrase of the sentence. In the example above, it is visible that the object (the clothes), is affected by the verb (to wash), since the clothes have been washed. To further illustrate this constraint I will give an example of a sentence in which BA is used and in which this is not the case.

* Wǒ  BA wǒ gēge     kàndào  le

I    BA my brother  to see    particle

In this sentence the object (the brother) is not at all affected by the verb (to see). That the brother is seen, does not have any effect on the brother. Because of this, this sentence is ungrammatical.

Wiedenhof (2012:137) describes another constraint considering the semantics of sentences with a BA construction. The object is always definite. This means that the object is always known from context. This can be shown according to the following example described by Liu (2007:650).

Wǒ xiǎng BA  sān-ge   xuéshēng  sòng-zǒu

I    want  BA three-cl  students   send-away

I want to send away three (particular) students.

Wǒ xiǎng sòng-zǒu     sān-gè   xuéshēng

I    want send-away  three-cl  students

I want to send away (any) three students.

Both of these sentences are grammatically correct. However, the usage of BA in the first sentence indicates that the three students the speaker is talking about, are three particular students of which has been spoken before. Therefore one knows about which three students the speaker is talking. The three students in the second sentence on the other hand are supposed to be any three students. When it is clear that the object spoken of is actually meant to be not known from context, using a BA structure would be ungrammatical. An example of such a sentence would be the following:

* Nǐ  xiǎng BA  yī-gè   píngguǒ   chī-wán       ma?

  you want BA  an-cl  apple      eat-finished   question particle

In this case, the expression *yī-gè* 'an' in front of the object indicates that there has not been spoken about this object before. Therefore one should use an SVO sentence in this case.

Otting (2008: pp. 7-8) suggests that the usage of a BA construction depends on the degree to which these two above described conditions are met. The more the object is affected by the verb, the more probable would the usage of a BA structure be. When the object is known from context, the usage of a BA structure also becomes more probable.

Besides the semantic requirements one should have in mind when using BA in a sentence, there is also an important requirement regarding the verb of a BA sentence. The verb always needs to be complex in order for a BA sentence to be grammatical. This means the verb can never stand alone, but always needs to be accompanied by another element. This element could be the perfective marker LE to indicate the effects of the verb on the rest of the sentence, but could also be for example a resultative verb or an indication of place or time (Wiedenhof 2012: pp. 137-138). A list of possible elements that can occur after the verb can be found in Liu (1997), as viewed in (Otting 2008: 6).

An example of a sentence that therefore would be ungrammatical is the following:


* Tā  BA  diànshì  guān

   He BA  TV        turn.off


This sentence is ungrammatical because after *guān* 'close', the particle LE is missing to indicate that the action has been completed. The grammatical sentence would therefore be:


Tā BA diànshì guān    le

He BA TV      turn of  particle

He turned the TV off.


According to Otting (2008: pp. 7- 8), this syntactic constraint also has a connection to the affectedness constraint, since either LE, a resultative verb or an indication of place or time are necessary to indicate the amount to which the object has been affected by the verb because they say something about the result of the action.

In my research I will test my participants on their knowledge of these three constraints in order to be able to give an indication of how much they understand about the BA construction.


### 3.    General research regarding Second Language acquisition

In order to properly explain my research question, it is necessary to discuss some features of second language acquisition. For my research, it is mainly important to highlight the main points of view regarding first language interference. According to Behaviorism, a very influential school of thinking in the United States during the 1950's and 60's, children learn their first language by forming habits

(Lightbown & Spada 2013: 15). In order to properly acquire a second language, the main task for the second language learner therefore would be overcoming habits from the first language, and acquiring new habits in order to properly learn a second language (Lightbown & Spada 2013: pp. 40-43). Within Nativism, a school that became very influential in the 1960's, one on the other hand believes that everyone possesses an innate capability to acquire languages. This capacity is called Universal Grammar (UG) (Lightbown & Spada 2013: 20). Noam Chomsky, the grounder of this school, takes issue with the idea of habit-forming, since according to him, the amount and quality of the language children are exposed to, is not sufficient to be able to acquire the full complexity of a language only by forming of habits (Lightbown & Spada 2013: pp. 20-22). Therefore he argues that by using this innate capability all children possess, they are able to discover the rules of a language. The UG would contain principles that are universal for all human languages and the samples of the specific language a child gets acquainted to helps the child discover how these principles are applicable in his or her language (Lightbown & Spada 2013: 20). Grammar mistakes in first language acquisition are from this point of view seen as universal and different developmental trends have been discovered regarding the acquisition of grammar rules by children (Lightbown & Spada 2013: pp. 20-24).

With regard to second language acquisition it is often argued that there is a specific time in life for language learning, which is during the early childhood (Lightbown & Spada 2013:22). Different research confirms that even advanced second language learners do not have full command of their second language (Abrahamsson and Hyltenstam, 2009: pp. 249-306 ). Much research has been done with regard to the availability of the Universal Grammar to second language learners. Currently there are three main views with regard to the availability of the Universal Grammar to grown up second language learners (Xu 2012: 6). Some believe that the UG is fully accessible to second language learners and believe that many grammar mistakes made are universal without regard for the first language (Krashen, 1982). The inability of the second language learner to achieve the same level of proficiency in their second language as a first language learner, can according to these scholars be attributed to other factors, as for example the way the language is learned in the classroom or an anxiety to speak (Krashen, 1982). Other scholars believe that it is no longer possible to use the UG after a certain age, which would require second language learners to use cognitive strategies or their first language in order to acquire a second language (Bley-Vroman, 1989). The fact that these strategies are less effective than the UG, which is specially designed to acquire language, explains why the second language can never be acquired fully (Bley-Vroman 1989:54). Other scholars believe that second language learners only have access to the UG through their first language (White, 1996). In the latter two cases, first language Interference seems more probable than in the first case. In the first case it is stated that learners still have access to an innate mechanism when learning languages, while in the latter cases, second language learners would have no such thing to fall back on since in these cases one believes that they do not have direct access to an innate mechanism for second language learners.

Some examples regarding the nature of mistakes made by second language learners are Caspers and van Santen (2006: pp. 289-318) and Lalleman (1999: pp. 157-172), who both conclude that the mistakes made by the participants of their research were not a result of interference from the first language but rather mistakes of a universal nature. Other research however, for example that of Unlu et al. (2012: 255-269), seems to suggest that some mistakes and misunderstandings of the participants are due to first language interference.

In my research, I would like to be able to say something about the presence of the UG within grown up second language learners by researching the mistakes made within the BA construction. I will first

of all describe some research done with English speaking learners of Mandarin, after which I will compare this to my own research with Dutch speaking learners of Mandarin. The BA construction is an example of an SOV word order. Since Dutch, on the contrary to English, is an SOV language, it therefore could be easier for a Dutch speaker to understand and acquire this pattern based on first language interference. If it would indeed be the case that the Dutch learners of Mandarin seem to perform better than the English learners, than this could be attributed to the influence of their first language. If this is not the case, it is possible that universal factors as the UG may have influence when acquiring the BA construction.

### 4. Discussion of previous research regarding the BA construction

Different studies have tried to find out more about the nature of the mistakes made when acquiring the BA structure. Wen (2006) as described by Otting (2008:14), does research in order to find when, and how fast the BA structure is acquired in comparison to other constructions. This research is based on the ideas of Pienemann (1985), according to whom easier constructions have to be acquired before a learner can start acquiring more difficult ones. Wen looked at three different Mandarin grammar rules, the resultative verb complement, a question word used as indefinite pronoun, and the BA construction, and looked at how often the participants of each level used them, and which mistakes were often made when these rules were used incorrectly. Wen used 50 students of four different levels as participants in his research. The levels were respectively a beginner's level, a middle level, an advanced one level and an advanced two level. There was however no control group of native speakers in order to see how often the BA construction would have been used in case of complete acquisition. The students were asked to answer some informal interview questions and were asked to describe some pictures in order to see how often BA was used and which mistakes were made (Otting 2008:14). In his results, Wen states that the students in the beginner's level do not make any use of the BA construction. As the students get more advanced, BA is used much more often. The participants of the most advanced level use BA thirteen times, of which nine times correctly, which is 69.2% of the time. However, the correct usage of BA is on all levels clearly less in comparison to the other two grammar rules. Wen therefore regards BA as a structure that is acquired relatively late (Otting 2008:14).

Furthermore, the main mistake made by second language learners of Mandarin regarding the BA construction, was the usage of a bare verb. According to Wen, the complexity of the verb is used to denote the affectedness of the object within the sentence. It is therefore concluded that second language learners do not understand the necessity of affectedness when a BA construction is used in a sentence (Otting 2008:14). Another common mistake of the participants was an insufficient usage of words that indicated how the object was affected by the verb phrase. These were for example words that indicated the place of the object. This again shows according to Wen that the participants had insufficient knowledge of the affectedness constraint (Otting 2008:15). The other most common mistake made was a tendency to not use verb complements that indicated the direction of the action of the verb. According to Wen, this was however a lexical problem.

Zhang (2002) has done research on finding a possible developmental pattern within the BA construction. This is done according to the interlanguage hypothesis, which states that when acquiring a second language, the language is acquired according to a "developmental continuum" (Zhang 2002: VIII). In her research, Zhang looks at how the BA construction is acquired and whether or not there is an acquisition pattern for the BA construction. Based on these results, Zhang looks at whether or not certain strategies can be applied when teaching this structure (Zhang 2002: pp. 4-5). Zhang used 95 participants, under whom 24 native speakers of Mandarin as a control group. The other participants were full time students of Chinese at the University of Southern California with

English as their native language. The students were divided in three different levels of proficiency. Furthermore, their motivations for studying Chinese and their language background in other dialects were described (Zhang 2002: pp. 30-31). Zhang, made use of three different tasks in order to test her participants. In order to test how often BA was used and what kind of mistakes were made by her participants, Zhang used a so called "picture cue task". The participants were shown pictures to provoke the usage of a BA construction. Zhang stated that by doing this, she could test the production of her participants without having to use the large amount of data other production tasks usually ask for (Zhang 2002: pp. 32-34). The second task she used was the grammaticality judgement task. By using this task, she wanted to test the subjects' knowledge of six different features of the BA construction. These features are the word order of the BA construction, the use of directional complements in the BA construction, the use of resultative complements in the BA construction, the use of the aspect marker LE in the BA construction, the reduplication of verbs and the selection of the verb when using the BA construction. for each feature, she used three grammatical and three ungrammatical sentences and therefore uses 36 sentences in total. Lastly, she used a translation task, in which the participants had to translate nine sentences into Mandarin in order to test the participants knowledge of the directional complements (Zhang 2002: pp. 32-35). Zhang found that the BA structure is acquired in a U shaped pattern, meaning that the group of learners with the lowest proficiency performed better in the different tasks regarding the BA construction then the group of learners with the second lowest proficiency. The group of learners with the highest proficiency performed best. Zhang explains this by stating that the lowest level group of learners has recently been exposed to the BA construction, while the middle level group of students have learned the BA construction a few months ago. While the lowest group of learners can therefore rely on their memory of the recent explanation of the rules, the middle group of learners cannot. They are according to Zhang internalizing the knowledge of BA. The highest level group of learners have according to Zhang, succeeded in internalizing the structure (Zhang 2002: pp. 46-49). Furthermore, it is shown that there is a developmental order in acquiring the BA construction. The correct word order is acquired first, which is followed respectively by acquiring the correct usage of the Aspect marker LE, the usage of the correct verbs, the use of directional complements and lastly, verb reduplication and the usage of resultative complements (Zhang 2002: pp. 37-42). About these last two aspects of the BA construction, Zhang noted that the participants do not perform well, and that this does not improve as they reach an higher language level. The correct word order is according to Zhang acquired very quickly and does not need to improve any further as the participants get more advanced. The participants do get better in selecting the correct verbs and in the use of directional complements as they get more advanced. The least advanced participants perform better on acquiring the Aspect marker LE, which is according to Zhang something that has to be researched further in the future (Zhang 2002: pp. 37-42).

Xu (2012) did research on the interface hypothesis, which states that purely syntactic elements of the BA construction, as for example the word order of the BA construction, since they are supposed to be part of the UG, are easier to acquire than elements related to semantics, discourse or pragmatics, as for example the necessity of adding an extra element after the verb or the affectedness of the noun phrase by the verb (Xu 2012: 207). For his research Xu used 20 native speakers of Mandarin from a Chinese university as a control group. He used 32 second language learners of mandarin divided over two proficiency group (Xu 2012: 80). In the first task, purely core syntactic elements of the BA construction were tested against the so called "syntactic and semantic interface constraints" (Xu 2012: 86). These interface constraints include the complex verb constraint and the affectedness constraint. The core syntactic elements of the BA construction include the word order of the BA sentence (Xu 2012: 86). In order to test this, the participants were asked to judge the grammaticality

of different sentences (Xu 2012: 86). The second task was designed in order to provide information about whether the participants were able to decide when the BA construction was preferred over an SVO sentence. According to Xu, a BA sentence is preferred in case the noun phrase is a secondary topic. This kind of knowledge is according to Xu part of the discourse or pragmatics interface (Xu 2012: pp. 90-91). The participants were presented with an amount of situations presented in English. For these situations a response in Chinese was required and the participants had to choose the most appropriate response from a BA sentence and a non BA sentence. While the sentences were both grammatical, only one of them was preferred in this particular context (Xu 2012: pp. 90-91). In the third task, the participants were presented with a BA sentence and a corresponding SVO sentence, of which they had to judge whether only one of them or both were grammatical. This task was designed in order to find out whether the participants were conscious of when BA is obligatory (Xu 2012: pp. 90-94). The results confirmed that second language learners generally did better regarding core syntactic constraints as the word order of the BA sentence then they were in recognizing constraints that were not purely syntactic, as for example the complex verb constraint and the affectedness constraint. While the advanced group of participants showed to have a native like proficiency with regard to recognizing the correct word order of BA, they did not perform native like with regard to the complex verb constraint and the affectedness constraint. Their answers on the complex verb constraint were only 74.3% correct, and their answers on the affectedness constraint were 71.4% correct. The natives on the other hand had a score of 97. 2 on the complex verb constraint, and a score of 98.1 on the complex verb constraint (Xu 2012: pp. 113-114).The second language learners were also not good in recognizing obligatory BA sentences (Xu 2012: pp.207-208).

Du (2004) has done research on two constraints of the BA construction. The first constraint was the complexity of the verb phrase, in which the aspect marker LE and the resultative verb were tested. The second constraint researched, was the definiteness constraint (Du 2004: 17). Du used 65 participants and a control group of 20 native speakers. The second language learners all did an intensive Mandarin course at the Defense Language Institute in California. The participants of this research were divided across three levels of proficiency based on the number of weeks they had been studying Chinese, which were 30, 45 and 60 weeks (Du 2004: 18). The production of BA sentences was tested by using a production task with ten videos. Of these videos, five provoked a BA structure with the particle LE and five of them provoked a BA structure with a resultative verb. Also, a grammatical judgement task was used to test whether they did or did not understand these constraints on the BA construction (Du 2004: 18). The results show that regarding the production task, the learners used fewer BA sentences than the native speaker control group. When they however did use a BA sentence, it was found that they did use a complement after the verb (Du 2004: pp. 282-283). There was no strong developmental trend visible between the three learner groups (Du 2004: pp. 259-263). According to Du (2004), this could be because the groups were only fifteen weeks apart, which may not be enough time for a large level difference to be visible. Also, individual difference was visible among the participants. Based on the results Du notes that the BA construction might be acquired late, so that more advanced students need to be tested on their knowledge on BA (Du 2004: pp. 259-263). When looking at the sentences that tested the participants knowledge on the complex verb constraint on the grammaticality judgement task, it was found that the participants accepted grammatical sentences more often than that they rejected ungrammatical sentences. This was especially the case when a resultative complement was used (Xu 2004: 64). The definiteness constraint was according to (Xu 2012: pp. 64-65) not designed well in this test, so that no specific conclusions could be drawn regarding this constraint.

From the above described studies, some general conclusions can be drawn. When looking at the research that has conducted some kind of production task, which are Zhang (2002), Wen (2006), and

Du (2004), it is often concluded that the natives use BA more often than the second language learners. Wen (2006) did not use a control group of native speakers, and it is therefore not clear how often it would have been grammatical to use a BA construction in his research. On the other hand, his research does describe that the amount in which BA is used increases as the participants reach a more advanced level. Zhang (2002) notes that the participants usage of BA was above expectation. However, the participants in Zhang's research were specifically asked to use BA when possible. When looking at the mistakes that have been made when using BA, there are some different conclusions. With regard to the complex verb constraint, Du (2004) states that the participants did use a complement after the verb when they used BA. Wen (2006) on the other hand stated the usage of an alone standing verb as the most common mistake. It could be the case that these two researchers tested BA in a different manner. Wen (2006) interviewed his participants and let them describe pictures in order to describe their usage of the BA construction, while Du (2004) only used pictures to provoke the BA construction. As a result of this difference in method, there could be some different results. The described research also often conducted grammatical judgement tasks and researched the constraints I will also look at in my own research. First of all, Xu (2012) suggests that the understanding of constraints as the complex verb constraint and the affectedness constraint does not develop into native like proficiency. Both Zhang (2002) and Xu (2012) conclude that the correct word order is acquired relatively quickly compared to other aspects of the BA construction. Zhang also suggests that some aspects of the BA construction do not improve as the participants get more advanced, as for example the usage of resultative verbs in the BA construction. Another interesting result with regard to the results of the grammatical judgement task of Du (2004), is the fact that the participant seemed to accept grammatical sentences more often than that they rejected ungrammatical sentences. This could indicate that participants are more careful in rejecting sentences and prefer to accept them. When looking at a grammatical judgement test, this could be a factor to take into account.

## 5. Introduction to my own research

**Participants**

For my research I have used 19 participants from two different learner groups. The first group consists of 9 second year Mandarin students from Leiden University. They have been studying Mandarin in Leiden for a little more than two semesters. One of them has studied Chinese in high school. However, the first year students at Leiden University follow an intensive Mandarin course and have class eleven hours a week. High school students have around two hours of Mandarin class a week. Therefore I expect that after more than two semesters of intensive Mandarin class, this student will no longer have a large advantage. Neither of the students in this first group has spent a large amount of time in China or Taiwan. They have learned the BA construction at the end of the first year of their Bachelor, which means that at the time of the research, they have known the BA construction for about 6 months. The second group participants consists of students in their third year of the Bachelor China Studies in Leiden University and of students who are currently in the East Asian studies master program in Leiden University. All the third year Bachelor students are currently taking the advanced Chinese class, indicating that they have either spent a year in China or Taiwan or have been admitted to this class because of a higher level of Chinese compared to the other third year students. All master students have learned Chinese for three or four years. All but one of the students in this group have been to China or Taiwan for at least three months. A group of two native speakers was used as a control group. One of them considered herself a native speaker of Mandarin. She spoke no other Chinese dialect besides Mandarin. The other native speaker said that he started

using Mandarin at the age of three. Before this age, he spoke another Chinese dialect. Besides the native speakers, none of the participants know any Chinese dialect but Mandarin.

**Method**

For this research, I have conducted a picture cue task and a grammaticality judgement task. As already noted by Zhang (2002), a picture-cue task is done in order to be able to say something about the production of BA without having to collect a large amount of data (Zhang 2002: pp. 32-34). I designed a PowerPoint with 6 slides. Each of these slides contained two pictures. Based on these pictures the participants had to make two sentences, in which they had to describe what Wang Peng was doing, and which had to be combined by the Chinese conjunctive *ránhòu* 'then, consequently'. This was done according to the research of Du (2006) as described in Otting (2008), who used moving images in order to test the participants production of the BA construction. According to Du, the obligated usage of *ránhòu* 'then' would let the participants believe that the research is about conjunctions. The participants did not know that the research was about the BA construction. Therefore the BA construction could be provoked in a more natural way (Otting 2008: 16).There were also some other obligated words which were visible on the slides. Some of these words were made obligated because I expected them to further provoke the BA construction. Others were obligated because I expected that the less advanced participants would not know these words yet, and would otherwise not be able to form a sentence based on the slides. Five of these six pictures evoked the usage of a BA sentence. One of them was meant as a distracter and was not necessarily supposed to evoke BA. The usage of BA in these sentences was not grammatically obligated. The goal of this test was mainly to see how often the usage of BA was chosen over an SVO sentence by the different groups of participants.

A picture cue task cannot indicate whether the participants fully understand the constraints of the BA construction. In order to be able to say more about these constraints, I have conducted a grammaticality judgement test. The participants were presented with 25 sentences. In these sentences I represented the three most important constraints of the BA construction. In order to correctly use a BA construction, the object has to be affected by the verb, the verb always has to be complex and the object has to be known from context. Of the 25 sentences, the object of four of them was not affected by the verb, three of them were not complex and in three of the sentences it was clear that the object was not known from context. four of the used sentences were BA sentences that were grammatical. The six remaining sentences were used as distracters. The participants could either judge a sentence as ungrammatical or as grammatical. As an extra dimension in my research, I looked at the extent to which the participant had confidence in their choices on a scale of one to four. In order to obtain a clear view of the confidence per group, I took the average of all the participants answers per group for each sentence. This was done in order be further able to see whether the participants really understood that a sentence was grammatical or ungrammatical, or just guessed the answer. By testing how secure the participants were about their answer, I was also able to compare the groups better, because a difference in confidence between the two groups of participants could also say something about the proficiency of the participants.

Regarding the picture cue task, The two of native speakers are used in order to have an adequate impression about when the usage of BA is preferred over an SVO sentence. I have compared the results of the group of native speakers to the two groups of learners in order to see what the patterns are in the usage of BA. Regarding the grammaticality judgement task, the two native speakers are used to indicate whether the sentences used for this test are grammatical or ungrammatical. In both cases, the native speakers are used for the "base line".

## 6. Results

In this paragraph I will discuss the results of my research. I will first of all discuss the results of the grammaticality judgement test. I will discuss the sentences of the grammaticality judgement task according to the constraints they were designed to test, and look at the sentences that did not conform to the three constraints. Each constraint was tested by using three or four sentences that were ungrammatical because they did not conform to this particular constraint. Furthermore, I will look at four sentences that were designed to be overall grammatical. I will present my results in a table, in which I will note how each participant judged each sentence. If a sentence was regarded to be grammatical by a participant, I will note "right". If a sentence was regarded to be ungrammatical by a participant, I will note "wrong". I will regard the answers of the native participants as the grammatical answer. If the native speakers did not agree on their answer, I will not regard one answer as grammatical.

**Complex verb constraint**

Three sentences were used to test the participants understanding of the complex verb constraint. The results are visible in the table below.

| Basic, complex verb constraint. | Sentence 1: Wǒ BA diànshì guān | Sentence 2: Tā bù BA píngguǒ chī | Sentence 3: Bié BA wǒ de dōngxī luàn | Confidence in choices on a scale of 1 to 4. |
|---|---|---|---|---|
| Participant 1 | Wrong | Wrong | Wrong | 3, 3, 2 |
| Participant 2 | Right | Wrong | Right | 2, 2, 3 |
| Participant 3 | Wrong | Wrong | Wrong | 3, 1, 2 |
| Participant 4 | Right | Right | Right | 3, 2, 2 |
| Participant 5 | Right | Wrong | Right | 1, 1, 2 |
| Participant 6 | Right | Wrong | Right | 2, 3, 2 |
| Participant 7 | Right | Wrong | Wrong | 2, 1, 2 |
| Participant 8 | Right | Right | Right | 1, 4, 2 |
| Participant 9 | Right | Wrong | Right | 1, 2, 3 |

| Advanced, complex verb constraint. | Sentence 1: Wǒ BA diànshì guān | Sentence 2: Tā bù BA píngguǒ chī | Sentence 3: Bié BA wǒde dōngxī luàn | Confidence in choices on a scale of 1 to 4 |
|---|---|---|---|---|
| Participant 1 | Wrong | Wrong | Wrong | 1, 2, 3 |
| Participant 2 | Wrong | Wrong | Wrong | 2, 1, 1 |
| Participant 3 | Wrong | Wrong | Right | 4, 1, 4 |
| Participant 4 | Wrong | Wrong | Right | 2, 2, 3 |
| Participant 5 | Wrong | Wrong | Wrong | 1, 1, 1 |
| Participant 6 | Wrong | Wrong | Wrong | 2, 1, 2 |
| Participant7 | Wrong | Wrong | Wrong | 2, 2, 2 |
| Participant 8 | Right | Wrong | Wrong | 1, 1, 2 |
| Participant 9 | Wrong | Wrong | Wrong | 2, 1, 2 |
| Participant 10 | Right | Wrong | Wrong | 2, 2, 2 |

| Native, complex verb constraint | Sentence 1: Wǒ BA diànshì guān | Sentence 2: Tā bù BA píngguǒ chī | Sentence 3: Bié BA wǒ de dōngxī luàn |
|---|---|---|---|
| Participant 1 | Wrong | Wrong | Wrong |
| Participant 2 | Wrong | Wrong | Wrong |

**Discussion**

Three of the sentences in this grammatical judgement test had a bare verb, which was not accompanied by any particle, a verb indicating the result or an indication of place or time. These sentences were:

* Wǒ BA  diànshì      guān

    I    BA  television turn.off

 * Tā  bù  BA   píngguǒ  chī

   He not BA  apple      eat

* Bié       BA  wǒde dōngxī luàn

   Do not  BA  my      thing   messy

Each of these sentences were judged by the two native speakers as ungrammatical. Within the two learner groups, an interesting development can be viewed regarding this constraint. Only two of the nine second year participants regarded this sentence as ungrammatical. Within the group of advanced learners however, eight of the ten participants regarded this sentence as ungrammatical. The second year participants did better on the second sentence, which was judged as ungrammatical by seven of the nine participants. Within the advanced group, all participants judged the sentence to be ungrammatical. The third sentence was judged as ungrammatical by only three of the nine second year participants, while eight of the ten advanced participants judged this sentence to be ungrammatical.

For the first sentence, the second year group had an average confidence of 2, while the advanced participants had an average of 1.9. For the second sentence, the second year participants had an average of 2.1, while the advanced group had an average of 1.4. For the third sentence, the second year participants had an average of 2.1, while the advanced participants had an average of 2.2.

While the degree of confidence the two different groups show to have in their answer does not seem to make much difference for the first and the third sentence, the advanced participants seem to have more confidence regarding their judgement of the second sentence than the second year participants. The second year participants judged the second sentence more often as ungrammatical than they did with the other two sentences. It could be that the second year participants are

developing in recognizing this constraint, but that they are still more unsure about this compared to the more advanced group of speakers.

In sum, based on these results, it can be said that more advanced learners of Mandarin do better on the complex verb constraint than the less advanced learners. It seems to be that the amount of experience with Mandarin has helped the learners in creating an understanding of this constraint.


**Affectedness constraint**

Four sentences were used to test the participants understanding of the affectedness constraint. The results are visible in the table below.

| Basic, affectedness of object | Sentence 1: Wǒ BA wǒde gēgē kàndào le | Sentence 2: Tā BA bù shǎo rén rènshì le | Sentence 3: Tā BA tā yǐjīng xǐhuān hěn jiǔ | Sentence 4: Wǒ BA bǐsài yíng le | Confidence in choice |
|---|---|---|---|---|---|
| Participant 1 | Wrong | Wrong | Wrong | Wrong | 2, 3, 3, 2 |
| Participant 2 | Wrong | Wrong | Wrong | Wrong | 1, 1, 1, 1 |
| Participant 3 | Right | Right | Wrong | Wrong | 3, 2, 2, 1 |
| Participant 4 | Wrong | Wrong | Wrong | Wrong | 2, 2, 3, 2 |
| Participant 5 | Wrong | Wrong | Wrong | Right | 1, 1, 1, 1 |
| Participant 6 | Wrong | Wrong | Wrong | Wrong | 2, 1, 1, 2 |
| Participant 7 | Wrong | Right | Right | Right | 3, 3, 3, 1 |
| Participant 8 | Wrong | Wrong | Wrong | Right | 3, 4, 2, 1 |
| Participant 9 | Wrong | Wrong | Wrong | Right | 3, 2, 3, 3 |


| Advanced, affectedness of object | Sentence 1: Wǒ BA wǒde gēgē kàndào le | Sentence 2: Tā BA bù shǎo rén rènshì le | Sentence 3: Tā BA tā yǐjīng xǐhuān hěn jiǔ | Sentence 4: Wǒ BA bǐsài yíng le | Confidence in choice |
|---|---|---|---|---|---|
| Participant 1 | Wrong | Wrong | Wrong | Wrong | 3, 3, 3, 2 |
| Participant 2 | Wrong | Wrong | Wrong | Wrong | 1, 1, 1, 3 |
| Participant 3 | Wrong | Wrong | Wrong | Right | 1, 2, 2, 1 |
| Participant 4 | Wrong | Wrong | Wrong | Wrong | 1, 1, 2, 2 |
| Participant 5 | Wrong | Wrong | Wrong | Wrong | 1, 1, 1, 1 |
| Participant 6 | Wrong | Wrong | Wrong | Wrong | 1, 1, 1, 1 |
| Participant 7 | Wrong | Wrong | Wrong | Wrong | 4, 2, 3, 3 |
| Participant 8 | Wrong | Wrong | Wrong | Wrong | 1, 2, 1, 2 |
| Participant 9 | Wrong | Wrong | Wrong | Wrong | 1, 1, 1, 2 |
| Participant 10 | Wrong | Wrong | Wrong | Wrong | 1, 1, 1, 3 |


| Native, affectedness of object | Sentence 1: Wǒ BA wǒde gēgē kàndào le | Sentence 2: Tā BA bù shǎo rén rènshì le | Sentence 3: Tā BA tā yǐjīng xǐhuān hěn jiǔ | Sentence 4: Wǒ BA bǐsài yíng le |
|---|---|---|---|---|
| Participant 1 | Wrong | Wrong | Wrong | Wrong |
| Participant 2 | Wrong | Wrong | Wrong | Wrong |

**Discussion**

Four of the sentences used in the test were sentences in which the object was not affected by the verb. It would therefore be ungrammatical to use a BA construction in these cases. Both native speakers judged these sentences as ungrammatical. The following four sentences were used to test the participants knowledge of this constraint:

    \* Wǒ BA wǒde gēge     kàndào le

      I    BA my    brother  to see   particle

   \* Tā BA  bùshǎo  rén     rènshì   le

    He BA  a lot of  people  to know particle

   \* Tā BA  tā   yǐjīng   xǐhuān hěn jiǔ

    He BA she already to like very long

   \* Wǒ BA bǐsài  yíng    le

     I    BA game to win particle

From the results it can be viewed that the two groups of participants seem to be aware of this constraint. There does not seem to be much difference in performance between the two groups. The first sentence was judged as ungrammatical by 8 of the nine second year participants and by all of the advanced participants. The second sentence was judged as ungrammatical by seven of the nine second year participants and by all of the advanced participants. The third sentence was judged as ungrammatical by eight of the nine second year participants and by all of the advanced participants. In case of the fourth sentence, the results are somewhat different. Five of the nine second year participants judged this sentence as ungrammatical, against nine of the ten advanced participants.

The results regarding the confidence of the speakers towards their answer does differ more. For the first three sentences, the advanced participants have more confidence in their answers then the second year participants. For the first sentence, the second year participants have an average of 2.2, while the advanced participants have an average of 1.5. For the second sentence, the second year participants have an average of 2.3 against an average of 1.5 for the advanced speakers. For the third sentence the difference is a little smaller. The average of the second year participants is 2.1 against an average of 1.6 for the advanced participants. For the fourth sentence, the advanced participants have an average confidence of 2 against an average of 1.6 for the second year learners, which differs from the first three sentences. When looking at the first three sentences, there is only a small difference between the participants when looking at their performance. When looking at the confidence of the participants for these sentences however, there is a larger difference between the two learner groups. This result seems to indicate that while both groups seem to have understood this constraint quite well, the less advanced learners are still a little more insecure about it.

## Definiteness of the object

Three sentences were used to test the participants understanding of the definiteness constraint. The results are visible in the table below.

| Basic, Definiteness of object | Sentence 1: Nǐ kěyǐ BA yī zhī máobǐ jiè gěi wǒ ma? | Sentence 2: Wǒ māmā BA yī liàng chēzi mǎi le. | Sentence 3: Nǐ xiǎng BA yīgè píngguǒ chī-wán ma? | Confidence in choice of answer |
|---|---|---|---|---|
| Participant 1 | Right | Wrong | Wrong | 3, 3, 2 |
| Participant 2 | Wrong | Wrong | Right | 2, 3, 2 |
| Participant 3 | Right | Wrong | Wrong | 2, 1, 2 |
| Participant 4 | Right | Right | Right | 4, 2, 3 |
| Participant 5 | Right | Wrong | Wrong | 1, 1, 1 |
| Participant 6 | Wrong | Wrong | Wrong | 2, 1, 1 |
| Participant 7 | Wrong | Right | Right | 2, 2, 2 |
| Participant 8 | Wrong | Wrong | Wrong | 1, 1, 1 |
| participant 9 | Right | Right | Wrong | 2, 3, 1 |

| Advanced, definiteness of object | Sentence 1: Nǐ kěyǐ BA yī zhī máobǐ jiè gěi wǒ ma? | Sentence 2: Wǒ māmā BA yī liàng chēzi mǎi le. | Sentence 3: Nǐ xiǎng BA yīgè píngguǒ chī-wán ma? | Confidence in choice of answer |
|---|---|---|---|---|
| Participant 1 | Right | Right | Wrong | 3, 2, 2 |
| Participant 2 | Wrong | Wrong | Wrong | 3, 2, 3 |
| Participant 3 | Wrong | Wrong | Wrong | 2, 1, 2 |
| Participant 4 | Right | Wrong | Wrong | 1, 2, 2 |
| Participant 5 | Wrong | Wrong | Wrong | 2, 1, 2 |
| Participant 6 | Wrong | Wrong | Wrong | 2, 1, 1 |
| Participant 7 | Right | Wrong | Right | 3, 2, 4 |
| Participant 8 | Right | Wrong | Right | 3, 1, 2 |
| Participant 9 | Right | Wrong | Right | 2, 2, 2 |
| Participant 10 | Wrong | Wrong | Wrong | 4, 1, 2 |

| Native, Definiteness of object | Sentence 1: Nǐ kěyǐ BA yī zhī máobǐ jiè gěi wǒ ma? | Sentence 2: Wǒ māmā BA yī liàng chēzi mǎi le. | Sentence 3: Nǐ xiǎng BA yīgè píngguǒ chī-wán ma? |
|---|---|---|---|
| Participant 1 | Right | Wrong | Right |
| Participant 2 | Wrong | Wrong | Right |

## Discussion

Three of the sentences did not have a definite object. This means that the object of the sentence was not spoken about before. The following three sentences were used to test the participants knowledge of this constraint:

Nǐ    kěyǐ BA yī-zhī    máobǐ jiè      gěi  wǒ ma?

You can  BA  a-cl     pen     borrow give me question particle

Can you  give me a pen?

* Wǒ māmā   BA   yī-liàng  chēzi mǎi le

My  mother BA   a-cl      car   buy  particle

Nǐ   xiǎng  BA yī-gè píngguǒ chī-wán        ma?

You want BA an-cl apple     eat-finished     question word

Do you want to finish eating an apple?

These sentences were however not all judged as ungrammatical by the two native speakers. The third sentence was regarded as grammatical by both native speakers. The first sentence was regarded as grammatical by one speaker and as ungrammatical by the other. Therefore, it is not possible to give a judgement about the grammaticality of this sentence. Only the second sentence was regarded ungrammatical by both native speakers. The first sentence was regarded ungrammatical by four of the nine second year participants and by five of the ten advanced participants. The second sentence was regarded ungrammatical by six of the nine second year participants and by nine of the ten advanced speakers. Six of the nine second year participants, and seven of the ten advanced participants regarded the third sentence to be ungrammatical. For the first sentence, the confidence of the second year participants is a little higher, with an average of 2.1 against 2.5 for the advanced participants. The advanced participants confidence is higher regarding the second sentence. The second year participants have an average of 1.8, while the advanced participants have an average of 1.5. The second year participants have more confidence in their answer for the third sentence. Their average confidence is 1.7, while the advanced participants have an average of 2.2.

It Is not very clear whether this constraint is regarded as a constraint by the native speakers, since they do not judge all three sentences to be ungrammatical. Therefore, there is not much to say about the results of the participants.

**Grammatical sentences**

| Basic, Grammatical sentences | Sentence 1: Wǒ BA shū fàng zài zhuōzi shàng | Sentence 2: Nǐ BA píngguǒ gěi wǒ ba | Sentence 3: Qǐng nǐ BA mén guānshàng | Sentence 4: Nàgè rén BA wǒ bàba shā le | Confidence in choice of answer |
|---|---|---|---|---|---|
| Participant 1 | Right | Wrong | Right | Wrong | 1, 3, 2, 3 |

| | | | | | |
|---|---|---|---|---|---|
| Participant 2 | Right | Right | Right | Right | 1, 1, 1, 3 |
| Participant 3 | Wrong | Right | Wrong | Right | 3, 2, 1, 3 |
| Participant 4 | Right | Right | Right | Right | 4, 4, 2, 3 |
| Participant 5 | Right | Right | Right | Right | 1, 1, 1, 1 |
| Participant 6 | Right | Right | Right | Right | 1, 1, 2, 1 |
| Participant 7 | Wrong | Right | Right | Right | 3, 1, 2, 2 |
| Participant 8 | Right | Right | Right | Wrong | 2, 1,1, 1 |
| Participant 9 | Right | Right | Wrong | Right | 1, 2, 2, 3 |

| Advanced, grammatical sentences | Sentence 1: Wǒ BA shū fàng zài zhuōzi shàng | Sentence 2: Nǐ BA píngguǒ gěi wǒ ba | Sentence 3: Qǐng nǐ BA mén guānshàng | Sentence 4: Nàgè rén BA wǒ bàba shā le | Confidence in choice of answer |
|---|---|---|---|---|---|
| Participant 1 | Right | Right | Right | Right | 2, 3, 2, 3 |
| Participant 2 | Right | Right | Right | Wrong | 1, 1, 1, 2, |
| Participant 3 | Right | Right | Right | Wrong | 1, 3, 1, 2, |
| Participant 4 | Right | Right | Right | Right | 1, 1, 1, 1 |
| Participant 5 | Right | Right | Right | Wrong | 1, 1, 2, 3 |
| Participant 6 | Right | Right | Right | Wrong | 1, 1, 2, 1 |
| Participant 7 | Right | Wrong | Right | Wrong | 1, 3, 3, 2 |
| Participant 8 | Right | Right | Wrong | Wrong | 1, 1, 3, 2 |
| Participant 9 | Right | Right | Right | Wrong | 1, 1, 3, 2 |
| Participant 10 | Right | Right | Wrong | Wrong | 1, 2, 2, 3 |

| Native, grammatical sentences | Sentence 1: Wǒ BA shū fàng zài zhuōzi shàng | Sentence 2: Nǐ BA píngguǒ gěi wǒ ba | Sentence 3: Qǐng nǐ BA mén guānshàng | Sentence 4: Nàgè rén BA wǒ bàba shā le |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| Participant 1 | Right | Right | Right | Right |
| Participant 2 | Right | Right | Right | Right |

**Discussion**

I used four grammatical sentences. These four grammatical sentences were the following:

Wǒ BA shū  fàng  zài        zhuōzi shàng

I    BA book place at        table   above

 I placed the book on the table.

 Nǐ    BA   píngguǒ gěi   wǒ  ba

You   BA   apple    give  me  Particle

Please give me the apple.

Qǐng   nǐ   BA mén    guānshàng

Please you BA door    close

Please close the door.

Nà-gè   rén      BA wǒ bàba  shā le

That-cl person BA my father kill particle

That person killed my father.

The first three sentences were judged as grammatical by most non-native participants. The first sentence was judged as ungrammatical by two of the nine second year participants, against none of the advanced participants. The second sentence was judged as ungrammatical by one second year participant and one advanced participant.  The third sentence was judged as ungrammatical by both two second year participants and two advanced participants. For these sentences, there is not much difference visible between the two learner groups.

With regard to the confidence the participants showed to have in their answer, there is some difference visible. While the advanced participants were almost sure about the grammaticality of the first sentence, and have an average confidence of 1.1, the second year participants have an average of 1.9. For the second sentence, the average is 1.8 for the second year participants against 1.7 for the advanced participants. For the third sentence, the second year participants have an average confidence of 1.6, while the advanced participants have an average of 2.2.

For the fourth sentence, a clear difference can be viewed between the learner groups. Seven of the nine second year participants regard this sentence as grammatical, against only two of the advanced participants. Both groups have about the same amount of confidence in their choice of answer for this sentence. While the advanced participants have an average of 2.1, the second year participants have an average of 2.2.

A possible explanation for the difference between the two groups regarding the fourth sentence could be that the situation described in this sentence is not a typical example sentence learners of Chinese will get in the classroom. Less advanced learners may judge such a sentence as grammatical, since they have less experience with BA. Therefore they could think that such a situation could be possible even though they may have never heard it before. More advanced learners may have developed a certain understanding of BA and know of some situations in which BA often occurs, and therefore decide that this particular situation does not comply with the sentences they feel BA is often used in. A possible explanation for the difference in confidence regarding the first sentence, could be that this particular sentence is contrary to the fourth sentence, an often used example sentence when studying BA. According to Zhang (2002), forty percent of the BA sentences end with directional complements as does this sentence (Zhang 2002: 24). Advanced students probably had more language input and therefore they may have heard this kind of sentence more often than less advanced students, and are therefore more sure about its grammaticality. Another option, as suggested by Du (2004) could be that with some verbs a BA construction is more common, and that this is the reason that the advanced speakers can easier accept this ( Xu 2012: 171).

From these results in general it is visible that the less advanced learner group does not score lower than the more advanced group in judging a sentence as grammatical. They also often have almost equal or even higher scores regarding the confidence they have in their answers. It could be the case that learners on a lower level are less critical in judging sentences on its grammaticality and have a tendency to judge sentences as grammatical.


**Summary of the main results**

In general, my research shows the following results. With regard to the complex verb constraint, the advanced participants do very well. The second year participants seem to be doing less well on this constraint. A clear learning development is visible as the participants get more advanced. With regard to the affectedness constraint, the results show that both groups of participants are aware of this constraint, since very few participants are making mistakes with regard to the first three sentences. Based on the fourth sentence and on the confidence of the participants, it could be argued that the advanced participants do a little better. Based on my research, there is not much that I can say about the definiteness constraint, since there is not a clear pattern visible in the participants answers. Since the native speakers also did not judge all the sentences belonging to this constraint as ungrammatical, it is hard to say whether this constraint is regarded as a constraint by the native speakers in my research or whether the native speakers may not have interpreted the object of these sentences as unknown from context. The four sentences that were grammatical and

were judged as grammatical by the native speakers, were mostly also judged as grammatical by both groups of participants. Only the fourth sentence was more often judged as ungrammatical by the advanced participants. This may show that less advanced participants may have the tendency to judge sentences as grammatical.

**Production task**

I will now discuss the results of my production task. For my production task I asked my participants to produce six sentences based on six PowerPoint slides. In five of them, BA was supposed to be provoked. First of all I will show the results of my participants in a table in which I will note the usage of BA for each participant. If a participant used BA I will note 'BA'. If a participant used BA two times in a sentence, I will note 'BA BA'. If a participant did not use BA in a sentence, I will note 'no BA'. For the second sentence, I will also note what the participants said when they saw this slide, since the participants differed in their production for this sentence. I will use the native speakers judgement as a guideline for my results. If both of them use BA in a sentence, I will assume that BA is preferred in this context. If only one of them uses BA in a sentence, I will regard the usage of BA for this sentence as a possibility.

**Slides of the production test**

**Slide 1**

For this slide I expected the following sentence to be used.

Tā  BA  shū   fàng  zài  zhuōzi shàng.

He  BA  book  place at   table  above

I placed the book on the table. The participants are obliged to use *ránhòu* 'then', *fàng* 'to place' and *zhuōzi* 'table'. Because of *ránhòu* I forced the participants to use one sentence for each picture. Since the book is already visible in the first picture, I expected that for the second sentence, when the participants are possibly using BA, the object is known from context. I used the same conditions for each sentence, so I expected all second sentences to be definite for the participants. Since it is also the case that the object 'the book' is affected by the verb 'to place', I expected the participants to use a BA construction in this sentence.

**Slide 2**

In this slide I expected the action of eating in the first picture and the clean bowl and chopsticks in the second picture to provoke a sentence about either washing or finishing the food in the bowl. In such a sentence the object of either 'the bowl' or 'the rice' would be affected by the verb 'to wash' and 'to finish eating'. Therefore a BA construction would be possible. The participants were obliged to use the words *chī* 'to eat' and *ránhòu Wang Peng* 'then Wang Peng'.

**Slide 3**

In this sentence I obligated the participants to use *ránhòu* and *yíng* 'to win'. I did not expect the participants to use BA. This is because the object 'the game' cannot be affected by the verb 'to win'. I would therefore expect the following sentence to be used.


Tā yíng le          bǐsài

he won particle  game

He won the game.
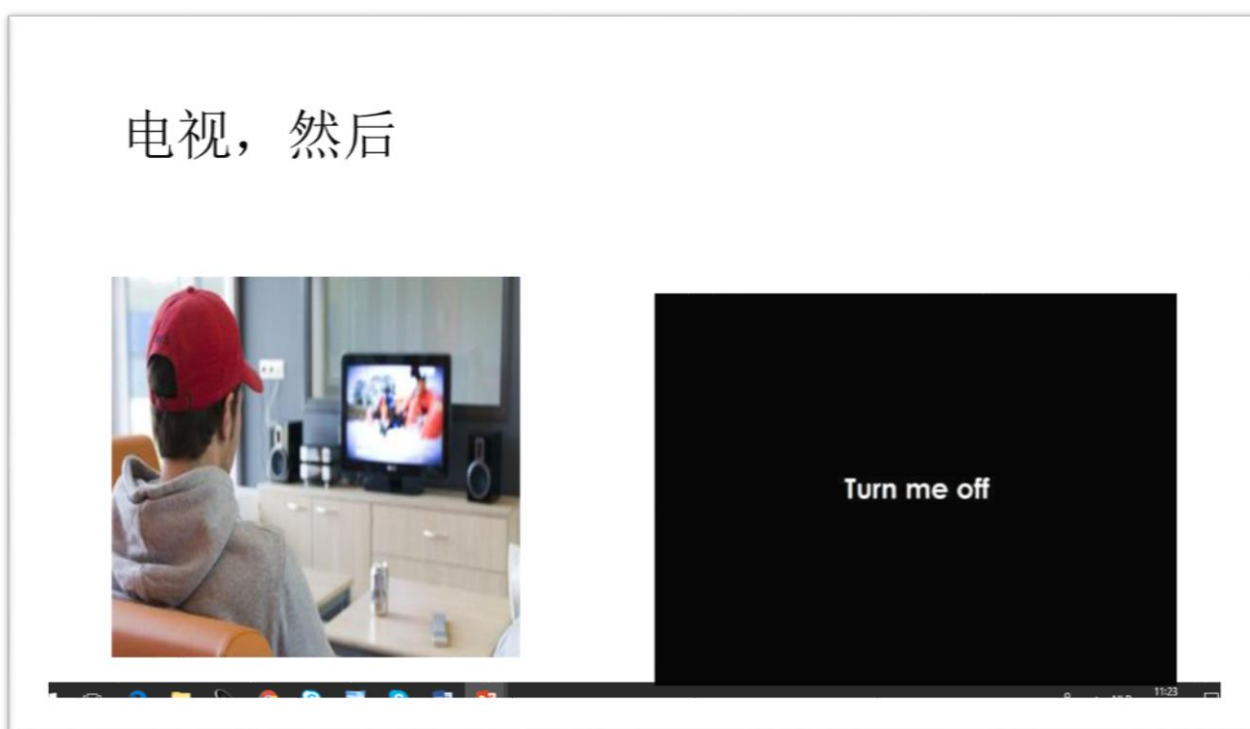
**Slide 4**

In this slide I expected the participants to produce the following sentence:

      Wang Peng BA diànshì guāndiào

      Name      BA TV      turn.off

      Wang Peng is turning of the TV.

I obligated the participants to use *diànshì* 'TV' and *ránhòu*. In this sentence the object 'the TV' would be affected by the action of turning it off. Therfore I expect that the usage of BA would be likely.



电视，然后

Turn me off

**Slide 5**

In this slide I expected the participants to produce the following BA sentence:

Wáng péng BA   bēizi   dǎsuì le

Name        BA   cup    break particle

Wang Peng broke the cup.

I obligated the participants to use *hē* 'to drink', and *Ránhòu* 'then'. Since the object 'the cup' is affected by the verb 'to break', I expected the participants to use a BA construction in this case.

**Slide 6**

With this slide I expected the participants to construct the following sentence:

      Wang Peng BA shǒu   xǐ-gānjìng-le

      Name        BA  hands wash-clean-particle

      Wang Peng washed his hands.

I obligated the participants to use *shǒu* 'hands', *ránhòu,* and *xǐ* 'to wash'. I expected the participants to construct a BA sentence because the object of this sentence 'hands' is affected by the verb 'to wash'.

**Results**

| Basic | Sentence 1 | Sentence 2 | Sentence 3 | Sentence 4 | Sentence 5 | Sentence 6 |
|---|---|---|---|---|---|---|
| Participant 1 | NO BA | NO BA, finished eating | NO BA | NO BA | NO BA | NO BA |
| Participant 2 | BA | BA, placing chopsticks on the bowl | NO BA | BA | BA | NO BA |
| Participant 3 | NO BA | NO BA, finished eating | NO BA | NO BA | NO BA | NO BA |
| Participant 4 | BA, ungrammatical | NO BA, finished eating | NO BA | NO BA | NO BA | NO BA |
| Participant 5 | BA | BA, placing chopsticks on the bowl | NO BA | NO BA | BA | BA |
| Participant 6 | NO BA | NO BA, has eaten enough | NO BA | NO BA | NO BA | NO BA |
| Participant 7 | NO BA | NO BA, placing the chopsticks on the bowl | NO BA | NO BA | NO BA | NO BA |
| Participant 8 | NO BA, tried to use it, but ungrammatical. | NO BA Finished eating | NO BA | NO BA | NO BA | NO BA |
| Participant 9 | NO BA | NO BA Finished eating | NO BA | NO BA | NO BA | NO BA |

| Advanced | Sentence 1 | Sentence 2 | Sentence 3 | Sentence 4 | Sentence 5 | Sentence 6 |
|---|---|---|---|---|---|---|
| Participant 1 | BA | BA, ungrammatical. Placing the bowl on the table | NO BA | NO BA | NO BA | NO BA |
| Participant 2 | BA | NO BA There is no rice left | NO BA | BA | NO BA | NO BA |
| Participant 3 | BA | NO BA There is no rice left | NO BA | NO BA | NO BA | NO BA |
| Participant 4 | BA | BA Washed the bowl | NO BA | BA | BA | BA BA |

| Participant | | | | | |
|---|---|---|---|---|---|
| Participant 5 | BA | BA Finished eating and washed the bowl | NO BA | BA | NO BA | NO BA |
| Participant 6 | BA | BA Finish eating and washing the bowl and chopsticks | NO BA | NO BA | BA not working, NO BA | NO BA |
| Participant 7 | BA | NO BA Finished eating, washes the bowl | NO BA | NO BA | BA BA | NO BA |
| Participant 8 | NO BA | NO BA Finished eating | NO BA | NO BA | BA | NO BA |
| Participant 9 | BA | BA Placing the chopsticks on the bowl | NO BA | BA | NO BA | NO BA |
| Participant 10 | BA | BA Placing the chopsticks and the bowl on the table | NO BA | BA | BA | NO BA |

| Native | Sentence 1 | Sentence 2 | Sentence 3 | Sentence 4 | Sentence 5 | Sentence 6 |
|---|---|---|---|---|---|---|
| Participant 1 | BA | BA Placing the bowl and the chopsticks on the table | NO BA | BA | BA | NO BA |
| Participant 2 | BA | NO BA Washing the bowl | NO BA | NO BA | BA | BA |

**Discussion**

While Zhang (2002) noted that the amount in which BA was used in her picture cue task, was above expectation, Du (2004) and Otting (2008) both state that the amount in which BA was used, increased as the participants got more advanced. Du also notes that the native speakers clearly used BA more often than the learner groups. Therefore I expected that the advanced group in my research would also use BA more often than the less advanced group.

The picture cue task was designed in order to gain more insight in how often the different groups of learners use BA. From the results it is visible that the two native speakers often did not form the provoked sentences in the same way.

Only for the first and in the fifth slide, both native speakers use BA. Since the third slide was meant to be a distraction, as expected, BA was not used by any of the 21 participants for this sentence. I will first look at the two slides which provoked BA sentences by both native speakers, after which I will discuss the other slides.

The pictures used in the first sentence were someone reading a book and a picture of a book on a table. The book would be affected by the action of placing it on the table and because of the first picture of reading a book, the object would be known from context. Therefore, I would expect a BA structure to be preferable for this sentence. The BA construction I wanted to provoke was the following:


      Wǒ    BA shū   fàng zài    zhuōzi shàng

      Name  BA book place at     table   above

       Wang Peng placed the book on the table.


In the case of the first slide, there is a clear difference in performance between the two learner groups. 8 of the 9 second year participants did either not use BA or they used it ungrammatically. Within the advanced group however, all but one participant preferred using BA and used it grammatically.

The fifth sentence was provoked by using a picture of a glass and a picture of a broken glass. The picture of the glass was used to make sure the object was already known from context. In the second sentence, the object would be affected by the action of breaking it. Therefore I would also expect a BA construction to be preferable for this sentence. An example of the kind of BA construction I wanted to provoke with this sentence is the following:

      Wáng Péng BA   bēizi   dǎsuì le

      Name      BA   cup   break-particle

      Wang Peng broke the cup.


When looking at the fifth slide, there is hardly any difference visible between the two groups regarding their usage of BA. Within the group of second year participants, three of the nine participants use BA. Within the advanced group, only two of the ten participants use BA.

While the second year participants neither in the first nor in the fifth slide use BA often, the advanced participants clearly use BA much less often in the fifth slide then in the first slide. A possible explanation for this could be that the usage of BA in a sentence which is about moving an object, is better understood by learners of Chinese. This could be because many of the examples given when explaining the BA structure, consist of these kind of sentences. It is possible that the advanced participants have heard these examples so often that they have now internalized it. The second year participants may not yet have been in contact with examples of the BA construction enough in order to have internalized this.

With regard to the second, the fourth and the sixth sentence, the two native speakers did not both use BA, still for all three sentences one of them did. Therefore it can be said that while BA is for these sentences not necessarily preferred by the native speakers, it is still a possibility to use BA instead of an SVO sentence.

The second sentence was provoked by using a picture of a child eating rice and a picture of an empty bowl with chopsticks on top of it, placed on a table. It turned out that for the participants, this sentence was open to multiple interpretations. Some said that the boy was eating, after which he finished eating. Others said that the boy was eating, after which he placed the chopsticks on the bowl, or the bowl on the table. Again others said that he was eating, after which he was washing the bowl and the chopsticks.

When looking at what the participants said when they saw this slide, it is visible that when BA was used, most participants talked about placing something onto something or about washing something. Only when BA was not used, the participants spoke about having finished the rice. Since none of the participants, including the native speakers, form a sentence about "to finish eating" while using BA, it seems as if the usage of BA in this case is often not preferred. When the pictures were however interpreted otherwise BA was sometimes used. The pictures on this slide gave the participants more freedom to construct different sentences than the other slides did. It however still seems as if the second year participants avoided the usage of BA more often than the advanced participants did.

The fourth slide showed a picture of someone watching TV and a black picture with the words "turn me off". The pictures indicated that Wang Peng was watching TV, after which he turned it off. I wanted to provoke the following usage of BA:


Wáng Péng BA diànshì guāndiào

Name        BA  TV        turn.off

Wang Peng turned the TV of.


The SVO variant of this sentence would be:


Wáng Péng guān le            diànshì

Name          turn.off particle TV

Wang Peng turned the TV off.

Also for this slide, it seems to be the case that the expected sentences can be formed with or without the usage of BA. From the results it is visible that the advanced participants use BA more often than the second year participants. While only one of the nine second year participants use BA, six of the ten advanced participants use BA. When looking at this sentence, it seems as if the amount of usage of BA increases as the participants get more advanced.

The sixth slide showed a picture of a pair of dirty hands and a picture of someone washing his hands. The sentence I wanted to provoke was the following:

> Wáng Péng BA shǒu    xǐ-gānjing-le
>
> Name        BA  hands  wash-clean -particle
>
> Wang Peng washed his hands.

The SVO variant of this sentence would be:

> Wáng Péng xǐ le          shǒu
>
> Name        wash-particle hands
>
> Wang Peng washed his hands.

One of the two natives used BA when forming a sentence for this slide. When looking at the results from the two groups of participants, there does not seem to be any difference in the usage of BA between the two groups of participants. While one of the nine second year participants used BA, none of the ten advanced participants used BA.

When looking at the results, there is much difference visible between the results for the individual slides. When looking at the results for the first, the second and the fourth slide, one can see that BA is used more often as the participants get more advanced. When looking at the results for the fifth and the sixth slide however, BA is hardly used by any of the participants. What can be said about these results in general, is that BA is rarely used by the second year participants and is used much more often by the advanced participants. A possible explanation for the difference in usage of BA between the different slides for the advanced participants could be that learners of Chinese do learn to use BA instead of avoiding it, but that they only learn to do this for particular kinds of sentences. Since the control group is also very small, another explanation could be that BA is just not often used in these cases.

**Summary of my main results**

It was found that the advanced participants used BA more often than the second year participants.

**Connections between my research and research with English native speakers**

My research has some similar results when compared to the research with English speaking participants I described earlier. Wen (2006), Du (2004) and Zhang (2002) all conducted a task in which they tested the production of their participants. First of all, all research states that the production of BA increases as the participants become more advanced, which is also the case for my research.

Zhang's picture cue task tested whether the participants were able to produce BA grammatically when they were told to do so. Wen used a more natural approach in the sense that Wen looked at when BA appeared in spontaneous speech. Since I tried to provoke BA by natural speech as well, Wen's research is easier to compare to my own. My advanced participants had 50 possibilities to use BA and used BA 23 times. My second year participants had 45 possibilities to use BA and used it 8 times. In both Wen's and in my own research, it is visible that the usage of BA increases as the participants get more advanced. In Wen's research it is however still visible that especially the participants in his second lowest group used the BA construction in an ungrammatical way around half of the time. In my research, when BA was used, the BA structure was mostly used grammatically.

Du's production test shows similar results as mine. Since Du however indicated that the difference in level between the groups of participants may have been too small, it is hard to compare this research to my own in terms of difference between the lower and higher levels. Interesting to note about Du's research is that Du stated that his participants hardly used a BA construction with a bare verb. Only four of Du's participants made this mistake. Du does state that some of his participants hesitated a long time before adding for example LE. In my research, none of my participants made this kind of mistake. Sometimes the participants in the second year group did hesitate a little before they added something behind the verb. It should be noted however, that the second year participants used BA only a few times, so that the most sentences were BA is used come from the advanced participants, who have learned Chinese for a much longer time than Du's participants.

Xu (2012), Zhang (2002) and Du (2004) all conducted a grammatical judgement task in their research. Du mainly looked at the complex verb constraint. Du's research states that all his participants do very well in rejecting the sentences with a bare verb and in accepting the grammatical sentences. My research suggests on the other hand, that many of the second year participants do not perform very well on this constraint, since they regard many of the sentences with bare verbs as grammatical. Only the advanced participants seem to be conscious of this constraint. However, even a few of the advanced participants have judged a sentence with a bare verb as grammatical. They have a correctness rate of 86.7%.

Xu states with regard to the affectedness constraint and the complex verb constraint, that the learner groups do not acquire the proficiency of a native speaker. The higher group of participants have learned Chinese for at least an average of around three years, which is about equally long as the participants in my research. The participants however still score significantly lower than the native speakers do on these two constraints. With regard to the affectedness constraint, my research on the other hand suggests that all my participants do quite well and that even the second year participants do not make many mistakes with regard to this constraint. The advanced participant have in total only made one mistake with regard to the affectedness constraint, and therefore judged correctly for 98.5% of the time.

Zhang did not directly test the three constraints I have tested in his grammaticality judgement task. She did however test the use of resultative complements and the use of the aspect marker LE, which can be regarded as testing the complex verb constraint. According to Zhang, the participants did not

do well on this, and there is also no clear visible pattern of development between the learner groups. With regard to the acquisition of resultative verbs, Zhang states that this shows that the participants cannot properly acquire the semantics of BA (Zhang 2002: 42).

Only Du has done research on the definiteness constraint, but however failed to acquire straightforward results because his research method accidentally did introduce the object, so that when a BA construction was used, the object was known from context. In my research as well, the native speakers were not straightforward about this constraint.

Du states with regard to the grammatical sentences, that the native speakers and the learner groups do not perform differently with regard to judging the grammatical sentences with a resultative verb complement. With regard to LE, the advanced group also performs better when judging the grammatical sentences then when judging ungrammatical sentences. In my research as well, both learners groups do well when judging the grammatical sentences. The last grammatical sentence however, is an exception to this.

I will now first discuss some of the shortcomings of my research. Then, in the conclusion, I will summarize these findings discussed above and say something about the differences and similarities I encountered between the Dutch and English native speakers.

### 7.   Shortcomings of my research and recommendations for further research

With regard to my research, there are some problems that are important to look at before giving my conclusions. First of all, it is important to note that because of the small number of participants that were willing to participate in this research, it was not useful to statistically analyze my results. My results are therefore not as reliable as I hoped, and my conclusions cannot be stated with certainty. Since the group of native speakers I have used in my research is also not as big as the group of native speakers used in other research of the BA construction, I cannot use my control group to compare them to the results of the second language learners. I therefore cannot draw conclusions about the extent to which the performance of my participants is nativelike. Another point that should be taken into account is that my participants have been learning Chinese for a different amount of time than the participants in the previous research I described. Also, their methods of research are not exactly the same as mine and their groups of participants were much larger than mine. Therefore direct comparison is not possible.

With regard to the picture cue task, the second slide may have been ambiguous, since the participants used different sentences as a response to this slide. This slide should have been constructed differently so that the participants would have been forced in a certain direction before speaking.  In order to have more elaborate results with regard to this task, I should have tested more sentences and should have divided them in expected probability of usage of BA, based on the amount to which the object is affected by the verb. Based on my results, which show that the usage of BA increases as the participants get more advanced for some sentences but not for others, further research can be done that compares the usage of a BA construction between different types of sentences.

When looking at the grammatical judgement test, there are several possibilities for further research. Since the native speakers were not conclusive when judging the sentences that contained a mistake with regard to definiteness, more research could be done with regard to how important this constraint is for native speakers and whether they regard this constraint as a constraint. Also more extensive research could be done with regard to the conclusions I have drawn about the other two constraints.

## 8. Conclusion

I conducted my research in order to answer the following research question: *Are native Dutch speaking learners of Mandarin as a second language faster in understanding certain features of the BA structure and in acquiring the BA structure then native English speaking learners of Mandarin?* In order to be able to say something about this, I looked at previous research done with native English second language learners of Mandarin and conducted my own research with native Dutch second language learners of Mandarin. My research consisted of a production task, and a grammaticality judgement task, which were respectively used to test the production of the BA construction and the amount towards which the participants understood the three main constraints of the BA construction. The previous research described in this thesis, also has conducted at least one of these tasks.

When looking at the overall development visible when looking at the different proficiency levels, I have found an overall improvement as the participants get more advanced mainly with regard to the usage of BA and the mastery of the complex verb constraint. The least advanced group hardly used the BA construction, while the advanced group used it much more often. This increase in usage is also visible in the production tests done by Wen. My research shows few mistakes overall with regard to the production of the BA construction, which is also the case in the research done by Du. The participants showed a high learning curve with regard to the complex verb constraint. However, four of the ten advanced speakers still made one mistake with regard to this constraint. The affectedness constraint seems to be developed better than the complex verb constraint. This is especially visible with regard to the results of the second year group of participants, since they made less mistakes with this constraint than they did with the complex verb constraint. The advanced participants overall only made two mistakes regarding this constraint. It seems as if finally, both constraints are mastered quite well, and that the affectedness constraint is mastered the fastest. It seems as if the participants in my research performed better on these constraints then the participants in Xu (2012), since my participants seemed to have a large rate of correct judgements. Zhang (2002), like Xu (2012), stated that her participants do not do well on the complex verb constraint. It could therefore be possible that these two constraints, especially the affectedness constraint, are mastered relatively fast by the Dutch native speakers of Chinese. In general some of the results of my research, as for example the development in usage of BA, an overall improvement of grammaticality judgement as the learners get more advanced, and an overall good judgement of grammatical sentences, are found in the previous research as well. Based on the good mastery my participants show to have in especially the affectedness constraint, more research could be conducted looking at by how far Dutch speakers actually do perform better than English speakers in understanding a structure as the BA construction. In order to do this my findings can be taken into account, but a more extensive research is necessary.

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