Production of Prototypical and Non-prototypical Combinations of Tense and Aspect in Uzbek Agrammatic Aphasia

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Abstract: This study investigates the role of the type of tense and aspect combinations in verb production in agrammatic aphasia. For this reason verb production was tested by means of sentence completion task, which was administered to three Uzbek agrammatic speakers. Four conditions, namely, past perfect and present continuous forms as prototypical patterns, and past continuous and future perfect as non-prototypical patterns were included in the test.

The production of prototypical and non-prototypical combinations of tense and aspect test showed preference for prototypical combinations of tense and aspect in Uzbek agrammatic speakers. Past continuous was the most impaired form compared to other conditions while present continuous was best preserved. There was no significant difference between past perfect and future perfect, but analysis of error patterns showed the advantage of past perfect. Thus, prediction made by Dragoy and Bastiaanse (2013), according to which the limited processing resources of aphasic individuals evokes the strategy of using cross-linguistically prototypical and cognitively grounded time reference–aspect matches was confirmed.

Key words: agrammatic aphasia, speech disorder, speech production, tense, aspect, verb

Introduction

A number of studies have shown that verbs are more impaired than other word classes in agrammatic aphasia (e.g., Bastiaanse & Jonkers, 1998, and Bastiaanse & Van Zonneveld, 2005, for Dutch; Kegl, 1995, and Kim & Thompson, 2000, for English; Kiss, 2000, for Hungarian; Luzzatti, Raggi, Zonca, Pistarini, Contardi, & Pinna 2002, for Italian). Researchers have found out that grammatical morphemes of the verb are more vulnerable than other morphemes (Goodglass & Hunt, 1958; Bastiaanse & Jonkers, 1998; Kim & Thompson, 2000; Kiss, 2000; Luzzatti et al., 2002; Burchert, Swoboda, & de Bleser, 2005; Gavarró & Martínez-Ferreiro, 2007). However, not all inflectional morphemes are equally impaired. Some studies reported that tense morphology is more impaired than other morphemes (Friedmann & Grodzinsky, 1997; Wenzalf & Clahsen, 2004; Wenzalf & Clahsen, 2005).

Bastiaanse (2008) suggested that the problem underlying tense production difficulties is the time reference. In Turkish, which is a structurally different language from Dutch, agrammatic speakers demonstrated the same deficit: they were poorer in verbs referring to the past than to the future (Yarbay Duman & Bastiaanse, 2009). Recently, a cross-linguistic study showed that it is not tense which is impaired, it is reference to the past including present perfect which is impaired (Bastiaanse, Bamyaci, Hsu, Lee, Yarbay Duman, & Thompson, 2011). Bastiaanse et al. (2011) proposed the *Past Discourse Linking Hypothesis* (PADILIH), which is based on Avrutin's (2000, 2006) idea about agrammatic speakers' lack of resources for processing discourse syntax. According to Zagona (2003), present tense is locally bound because the event described by the speech and the speech itself are happening at the same time. Conversely, past tense requires discourse linking. Bastiaanse et al. (2011) modified Zagona's theory and said that all forms referring to the past require discourse linking.

Referring to time is associated not only with tense, but also with another grammatical category, that is, Aspect. There are very few studies devoted to the expression of the Aspect in aphasic speech. Tsapkini, Jarema, and Kehayia (2001) conducted a case study with a Greek-agrammatic speaker. They note that when the patient was doing the cued elicitation of past tense forms production task, he replaced the past perfect tense with the present tense or past imperfect tense. Additional data from Greek agrammatic speech have been given by Stavrakaki & Kouvava (2003). Their analysis of spontaneous speech showed that the past tense was impaired while the present tense was intact, but at the same time, the past imperfect aspect seemed to be more preserved than the past perfect aspect. Both imperfective and perfective aspects of the future tense were intact. Varlokosta et al. (2006) reported that both perfective and imperfective aspects were impaired in fluent and non-fluent aphasic speakers of Greek. Nanousi, Masterson, Druks, and Atkinson (2006) replicated Stavrakaki & Kouvava's (2003) finding regarding the perfect/imperfect aspects in Greek. They used sentence completion tasks with forced choice and free choice to test Aspect. In both tasks, six agrammatic speakers of Greek showed that perfect aspect was more impaired than imperfect aspect. More recently, a study devoted to Aspect was done in Russian. Dragoy & Bastiaanse (2013) conducted two experiments to test whether the time reference is universal or depends on aspectual characteristics of the verb. The authors found that Russian aphasic patients performed better in the imperfect non-past condition and the past condition in perfect aspect. This outcome was explained by the *Integration Problem Hypothesis* (IPA) according to which integration of information from different linguistic levels is challenging for agrammatic speakers (Yarbay Duman, Altinok, Özgirgin, and Bastiaanse, 2011). Since Aspect is a lexical category in Russian, individuals with agrammatic aphasia had difficulties in integrating lexical information about Aspect with syntactic information about Tense.

As a result, agrammatic speakers reverted to prototypical combinations of Tense and Aspect. On the one hand, perfect aspect refers to complete actions, which are associated with the past rather than the present or the future. On the other hand, imperfect aspect refers to incomplete actions, which are associated with the present and future rather than the past. Consequently, perfect past is easier than imperfect past while the perfect future is more complex than its imperfect counterpart. If this argument is true, the impairment of non-prototypical combinations of tense and aspect is language independent, and the hypothesis should be confirmed in other languages.

Goals of the Study

We address the question concerning language-independent characteristics, such as time reference. Going into the question deeper, the proposed study addresses whether impairments of non-prototypical patterns of tense and aspect, as found in Russian (Dragoy & Bastiaanse, 2013) are language independent and depend only on logical compatibility of tense and aspect. In order to test the hypothesis of Dragoy & Bastiaanse (2013), the present study compares production of prototypical and non-prototypical combinations of tense and aspect in Uzbek agrammatic speakers and in Uzbek non-brain-damaged individuals. We will test past perfect and present continuous forms as prototypical patterns, and past continuous and future perfect as non-prototypical patterns. Dragoy & Bastiaanse (2013) propose that the limited processing resources of aphasic individuals evokes the strategy, of using cross-linguistically prototypical and cognitively grounded time reference–aspect matches. Based on this theory, we expect the Uzbek individuals to perform better with present continuous and past perfect than with past continuous and future perfect.

Relevant Features of Uzbek

Tenses

In Uzbek there are three main tenses: present, past, and future, which refer to a time respectively at, before and after the moment of utterance as in many other languages. The tense forms are as following:

Past

      Close (or definite) past: *bordim* 'I went'
      Distant past   *bor**gan**man* 'I went'
      Past continuous   *bor**ayotgan**dim* 'I was going'
      Past heard form   *bor**ib**man* 'They say I went'

Present

      Present simple   *bor**a**man* 'I go'
      Present continuous   *bor**yap**man* 'I am going'

Future

      Close future   *bor**a**man* ' will go / I am going'
      Future goal form   *bor**moqchi**man* 'I want to go'

Aspect.

In Uzbek there is no a grammatical unit for aspect which can form the same aspect for all tenses (like *to have* for English). Rather the aspect is defined from the meaning of tense itself. Thus, perfective aspect is represented in distant past and past tenses, while imperfective aspect includes past continuous and all forms of present and future tenses.

Apart from grammatical aspect, there is lexical aspect (Aktionsart) or actionality, which is a pronounced feature of Turkic languages as well as of Uzbek. The perfect aspect of English or Russian corresponds to the actionality construction past gerund plus *bo'lmoq* in Uzbek. The construction *–(i)b + bo'lmoq* – the past gerund and the verb *bo'lmoq* (the root meaning is "to be") expresses the end of the action (completed action).

(1) Men bu   kitob-ni   o'qi-b   bo'l-di-m
I-NOM this   book-ACC   read-COV   be-1ˢᵗ Sing-PastS

> I have read this book (I finished reading this book).
>   or
> I had read this book.

Example 1 refers to the past and corresponds to present perfect or past perfect in English. The temporal adverb *kecha* 'yesterday' or *hozirgina* 'just now' can be added to clarify the tense.
We are going to test production of present continuous, past continuous, past perfect, and future perfect conditions. We give examples below.

Present Continuous:
(2)   U   hozir   kitob   o'qi-yapti.
       S/he -NOM   now   book-ACC-UNM read- 3ʳᵈ Sing-PrC
       S/he is reading a book now.

Past continuous:
(3)   Kecha kechqurun   u   kitob o'qi-yotgan-di.
       Yesterday evening s/he-NOM book-ACC-UNM read-3ʳᵈ Sing-PastC

Yesterday evening s/he was reading a book.

Past perfect:

(4)   Kecha u   kitob-ni   o'qi-b bo'l-di.
Yesterday s/he-NOM book-ACC read-COV be-3ʳᵈ Sing-PastS
Yesterday s/he had read the book.

Future perfect:

(5)   U   kitob-ni   ertaga o'qi-b   bo'l-a-di.
S/he-NOM book-ACC tomorrow read-COV be-FUT-3ʳᵈ Sing
S/he will have read this book tomorrow.

Methods

<u>Participants</u>

The participants were 3 agrammatic speakers and 10 non-brain-damaged speakers. Since there is no test to assess and to diagnose the language ability of Uzbek aphasic speakers, our selection of brain-damaged participants was based on initial analysis of their speech in conversation in the first meeting. If their comprehension was relatively intact, and they had effortful speech consisting of mainly content words, we chose them for our study. Thus, 2 male and 1 female brain-damaged individuals participated in our study (age range: 33-69, mean age: ~52). They were all native speakers of Uzbek, and they used the language as a primary language in daily life.

All agrammatic speakers had good comprehension on an adapted version of the subtask for auditory comprehension of single words (nouns, verbs, colours, shapes, letters, and numbers) from the Boston Diagnostic Aphasia Examination word comprehension test (Goodglass & Kaplan, 1972).

Ten non-brain-damaged subjects participated in the experiment (7 females and 3 males, with mean age of 47.3, age range 27-60). All are native speakers of Uzbek; all of them have normal or corrected-to-normal vision. None of the control participants had a history of brain injury or other neurological problems. All participants are right-handed. Detailed information about the participants can be found in Appendix 1 for agrammatic speakers, Appendix 2 for NBD speakers.

Materials

We constructed our test on the basis of TART (TART: Bastiaanse et al., 2008). The test included eleven verb pairs and four different tense/aspect combinations: two continuous forms (present continuous and past continuous) and two perfect forms (past perfect and future perfect). In the TART verbs are paired so as to take the same object, for example, *to knit – to sew the cloth; to pour/ to drink the milk*. A coloured photograph corresponded to each verb. Since we have continuous, perfect, and simple conditions we used pictures of the action going on for present and past continuous, pictures of the action being finished for past perfect and future perfect, and pictures of the action about to start for present simple. Basically we used the same verbs, but we had to make a few changes according to differences between the words used in the situation depicted in the pictures. We changed the objects of the following verb pairs *to paint – to draw a square, to push – to pull the trolley, to iron – to fold the sweater* into *to paint – to draw a picture, to push – to pull the load, to iron – to fold the cloth.* We also changed some verbs: instead of *o'tkirlamoq* 'to sharpen', we used *chiqarmoq* 'to make the pencil get out'. We changed both verb pairs and the object for one picture, instead of *to empty – to fill the folder* we used *qog'ozlarni solmoq – olmoq* 'to put in – to take out the papers', which sounds more natural for Uzbek than *to empty – to fill the folder.* With the

last change we tried to avoid the influence of the verb voice, because we translate *to empty – to fill the folder* with transitive verbs *to'ldirmoq* 'to fill' and *bo'shatmoq* 'to empty', which are derived from the intransitive verbs *to'lmoq* 'to be filled up' and *bo'shamoq* 'to become free'. We assumed that using *to'ldirmoq* 'to fill' and *bo'shatmoq* 'to empty' would cause additional difficulty for the brain-damaged participants because of their derived nature. A complete list of the verbs is given in the Appendix 3.

Each item of the test included two pictures of two different actions next to each other; the stem of the verb was printed above the photo with large, legible lower case font (Figure 1).
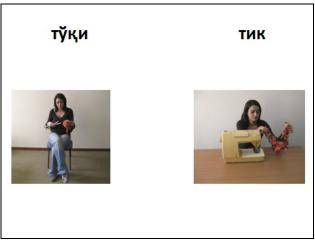

Figure 1. Example of the presentation of the stimuli.

We did not use the infinitive form, because in Uzbek the infinitive form of the verb is derived from the stem by adding the suffix *–moq*. If we put the infinitive form, the participant would have to perform two actions: first, delete the infinitive suffix and second, add the required suffix. Therefore, we preferred to use verb stems for the stimuli.

We used a sentence completion paradigm to elicit verb forms expressing two prototypical combinations of tense and aspect and two non-prototypical combinations of tense and aspect. For the prototypical combination we used present continuous and past perfect, as the present corresponds to the action going on and the past refers to a completed action. For the non-prototypical pattern we chose past continuous and future perfect, because on the one hand, an action which happened in the past is less likely to be ongoing, on the other hand, an action which did not happen yet cannot be complete.

Each verb pair occurred four times during the test, corresponding to four different conditions. The orders of the items were randomized such that neither the same verb nor the same condition appeared after each other. The total number of trials was 40, excluding 4 sample items.

Procedure

The participant is shown two pictures on one page. The tester produces the sentence for the first picture and most of the second sentence as well, leaving only the verb to the participant. The participant should complete the sentence by producing the verb of the sentence in the same tense-aspect form as the first sentence's verb.

We had perfect conditions versus imperfect conditions. To refer to perfect conditions we used perfect forms of the past tense and future tense. To refer to imperfect conditions we used past continuous and present continuous tenses.

For each condition, we used a particular temporal adverb. For present continuous we used *hozir* 'now', for past continuous we used *kecha* 'yesterday'. For perfect conditions, we used more specific temporal adverbs: *kecha kechqurun* 'yesterday evening' and *ertaga ertalab* 'tomorrow morning'. An example for eliciting past perfect is:

Tester:
"Kecha   bu   yigit   qog`oz-ni   yirt-ayotgandi.
Yesterday   this   guy-NOM paper-ACC   tear- PastC
Yesterday this guy was tearing the paper.

Kecha bu   йигyigit qog`oz-ni…"
Yesterday this guy-NOM paper-ACC
Yesterday this guy ……. paper

Participant: "... kleyla-yotgandi".
                …glue- PastC
                …was gluing.

<u>Scoring</u>

The responses were analyzed both quantitatively and qualitatively. The answer was counted as correct when the target form of the verb tense was produced. Omission or substitution of inflectional morphemes or participles was considered an error. We did not count substitution of the lexical verb as an error, when it was replaced with its synonym or with another verb that could be associated with the action in the picture. If tense form was correct, we counted these answers as correct.

Statistical analyses were conducted in SPSS 16.0. First, the Mann-Whitney U-test was performed to find a difference between agrammatic speakers and NBD speakers. Then for agrammatic speakers results were analyzed with the Friedmann test to find out whether conditions differed from each other. We also used the Wilcoxon Signed-Rank test to compare conditions.

Results

Quantitative analysis

All NBD speakers performed near-ceiling (98.4% correct answers, see Appendix 4 for individual results). Two participants provided wrong answers in three trials in past continuous, and one participant gave two wrong answers in two trials in Present Simple. DH substituted past continuous with past simple forms and MO substituted past continuous with present continuous forms. NO substituted present continuous with future simple. All these substitutions were made at the beginning of the test. Therefore, we consider them to be the result of lack of attention. The results of agrammatic speakers are shown in Table 7.

Table 1. The test results of agrammatic speakers.

#	Brain damaged subject	1 PrC	2 PasP	3 FutP	4 PasC	Total	%
1.	NK	10/10	7/10	6/10	0/10	23/40	57
2.	FF	8/10	5/10	6/10	0/10	19/40	45
3.	MO	9/10	7/10	4/10	0/10	20/40	50
	Total	27/30	19/30	16/30	0/10	62/120	51

Note. PrC- Present Continuous, PasC-Past Continuous, PasP – Past Perfect, FutP - Future Perfect.

A Mann-Whitney U-test was used to test differences between groups. There was no significant difference in the present continuous condition ($z= - 2.588$, $p=.1$). The results for all other conditions were significant: past perfect $z= -3.286$, $p=.001$, future perfect $z=-3.286$, $p=.001$, past continuous $z=-2.814$, $p=.005$.

For further statistical analysis we did not include NBD speakers' results. A Friedmann test was performed for agrammatic speakers' results in order to find out whether there was a global difference across conditions. There was a significant difference (Friedmann's test, Chi-squared= 51.100, p=.000). Then we compared the conditions to each other with a Wilcoxon Signed-Rank test. The difference between present continuous and past continuous is significant (z=-5.292, p=.000). Future perfect and past perfect do not differ significantly (z=-.775, p=.439). Comparison of present continuous and both perfect conditions also gave significant differences (past perfect: z= - 2.714, p=.007; future perfect: z=-3.207, p=.001). Past continuous and both perfect conditions have significant difference as well (past perfect: z= - 4.359, p=.000; future perfect: z=-4.000, p=.000).

In summary, present continuous is significantly better than all other conditions and past continuous is significantly worse than all other conditions. Both perfect forms are equally impaired in comparison with present continuous, and spared as compared to past continuous.

Qualitative analysis

The quantitative analysis showed that our expectation was confirmed only in present continuous vs. past continuous conditions. The difference between prototypical combination and non-prototypical combination of perfect aspect did not reach statistical significance. To find out if the agrammatic speakers' performance differs qualitatively in these conditions, our qualitative analysis is focused on substitution errors. Overall 7 verb forms were produced during the test. In addition to the forms used in the test (present continuous, future perfect, past perfect), present-future, past simple, future goal form and verbal noun form occurred as substitution errors. We have mentioned that the present simple form overlaps with the future simple form in Uzbek, and

disambiguation is possible only within context. Since we cannot conclude whether the agrammatic speaker is referring to the future or to the present when they used this form incorrectly, we calculated them together as present-future form.

We have to note that the past continuous form was not produced at all. We can see this form neither as a target, nor as an error. Future perfect form was produced relatively well in the test, but this form never occured in substitution errors.

The total number of errors made by Uzbek agrammatic speakers is 58, 50 of which are substitution errors. Table 8 depicts the distribution of tense substitutions.

Table 2. Substitution errors of agrammatic speakers.

#	Substituted with / Target form	PrC	PasP	Pr-Fut	PasS	FutG	Verbal noun	Total
1	PrC			1	1	1		3
2	PasP	6			1			7
3	FutP	5	5	2				12
4	PasC	19	2	4	2	1	1	29
	Total	30	7	7	4	2	1	51

Note. PrC- Present Continuous, PasC-Past Continuous, PasP – Past Perfect, FutP - Future Perfect, Pr-Fut – Present –Future form, PasS –Past Simple, FutG– Future Goal form.

We can see from Table 8 that the agrammatic speakers used the present continuous to substitute the target form most of the time. The largest proportion of these substitutions belongs to the past continuous condition, which shows that continuous is more applicable to present than to past. Future perfect was substituted with past perfect 5 times, while we do not observe the opposite pattern. This fact confirms to a certain degree the role of prototypical combination of tense and aspect: perfective is more compatible with the past than with the future. The

only substitution of the target form with the verbal noun occurred in the past continuous condition.

The remaining 7 errors were of other types. These errors occurred mainly in perfect conditions related to periphrastic form. In the past perfect condition FF omitted the co-verb once, and produced only auxiliary in the required form. NK failed to produce the co-verb 5 times while correctly producing the target auxiliary forms. Two times in the same verb *o'qib bo'lmoq* 'to have read' he replaced *o'qib* 'read' by its verbal noun form *o'qish* which corresponds to 'reading' in English. In the verb *ichib bo'lmoq* 'to have drunk' he could not produce *ichib* 'drunk', the suffix *–ib* was replaced by the accusative case suffix *–ni*. The other error occurred because the co-verb form was substituted with its finite form, namely present continuous form. Two errors were with the verb *kleylab bo'lmoq* 'to have glued'. Instead of *kleylab* 'glued', *kley* 'glue' was produced both cases. The same error was made in the past continuous for the same verb.

Discussion

The results confirmed that Uzbek agrammatic speakers have problems with past time reference. A general advantage of non-past over past was revealed by quantitative analysis (71 % vs. 31% correct). 76 % of substitution errors were also by non-past reference (present continuous, present-future, future goal forms). This result is in line with previous findings (Bastiaanse, 2008; Bastiaanse et al., 2011; Dragoy & Bastiaanse, 2013, Faroqi-Shah & Dickey, 2009; Faroqi-Shah & Thompson, 2007; Lee, Milman, & Thompson, 2008; Stavrakaki & Kouvava, 2003; Yarbay Duman & Bastiaanse, 2009).

Regarding perfect and imperfect aspect, we did not find any particular aspect impairment. Our findings contradict the data from Greek aphasic speakers, which showed impairment of the perfect aspect

(Nanousi et al., 2006; Stavrakaki and Kouvava, 2003). The proportions of correct answers in perfect and imperfect aspects do not show a large difference: 58% and 45% respectively.

The study is mainly focused on the production of prototypical and non-prototypical combinations of tense and aspect. According to Bastiaanse and Dragoy (2013), aphasic speakers lack resources to process tense and aspect markers, therefore, they use simplest matches – using perfectives to refer to the past and imperfectives to refer to the non-past. The test results showed that the hypothesis was confirmed in continuous condition. Past continuous was just impossible for agrammatic speakers. There was no any correct answer in this condition, while the opposite condition – present continuous – was the best preserved. Only a few errors were observed in the latter condition. Error patterns support the idea that continuity of action is associated with the present rather than the past. 63% of the errors made in the past continuous condition were substitutions with present continuous. Substitution with the present tense is a common error for other conditions as well. Past perfect was replaced with present continuous 6 times and future perfect 5 times.

We did not find a significant difference between past perfect and future perfect. They seem to be equally impaired compared to present continuous. However, these forms are preserved compared to the past continuous form. We expected future perfect to be more impaired than past perfect, but the results did not meet our expectations. In order to find out more about past perfect and future perfect we turn to qualitative analysis of the results. There were different error patterns in the substitution of past perfect and future perfect. As mentioned above, both perfect conditions were replaced in equal degree with present continuous, which is the best preserved form. Another substitution in the past perfect condition is past simple. The agrammatic speakers did not substitute past perfect with future perfect. The number of errors made in

future perfect is higher than the number of errors in past perfect. Future perfect was substituted with past perfect 5 times, which is as frequent as the substitutions of future perfect with present continuous. There are two substitutions with the present-future form in this condition. We assume the large percentage of substitutions with the present continuous is due to the fact that the present continuous is the best preserved form in agrammatic speakers. If we leave out substitutions with present continuous, we can see that future perfect was substituted with past perfect, while the opposite pattern of this substitution did not occur at all. This confirms that perfect is more compatible with the past rather than future. Our findings are in line with those of Dragoy and Basitaanse (2013), and support the hypothesis regarding the prototypical combinations of tense and aspect in agrammatic aphasia.

Appendix 1

Information on Uzbek agrammatic participants (n=2).

P.	G.	Time post onset (years; months)	Age at testing	Etiology/ localization	Handed-ness	Occupation	Ed.
N K	m	11	69	left CVA	r	Head of the fund in higher education	18
FF	m	6	33	left CVA	r	Engineer	14
M O	f	7	53	left CVA	l	Baby-sit	10

Key: P.=participant; Ed = Years of formal education; G.=gender; m = male; f = female; Handedness: r = right handed; l = left handed

Appendix 2

Information on Uzbek non-brain-damaged participants. (n=10)

Part	Gender	Age at testing	Handedness	Occupation	Ed
ZR	f	33	r	teacher	19
AU	m	27	r	driver	10
AA	m	60	r	teacher	15
DH	f	60	r	doctor	16
QX	f	53	r	accountant	15
IT	m	55	r		10
OT	f	57	r	houswife	10
MO	f	46	r	houswife	10
NO	f	39	r	houswife	10
LA	f	43	r	doctor	16

Key: Ed = Years of formal education; Sex: m = male; f = female; Handedness: r = right handed; l = left handed

Appendix 3

The list of verbs used in the test

Uzbek		English
Cyrillic	Roman	
Кийимни тўқи – тик	Kiyimni to'qi – tik	to knit – to sew the cloth
Юкни торт - итар	Yukni tort – itar	to push – to pull the load
Хатни ёз – ўқи	Xatni yoz – o'qi	to write – to read a letter
Кийимни дазмолла – тахла	Kiyimni dazmolla – taxla	to iron – to fold the cloth
Олмани арч – е	Olmani arch – ye	to eat – to peel the apple
Расмни чиз – бўя	Rasmni chiz – bo'ya	to paint – to draw a square
Қоғозни йирт – клейла	Qog'ozni yirt – kleyla	to tear – to glue the paper
Сутни қуй – ич	Sutni quy – ich	to pour – to drink the milk

Қоғозларни сол – ол	Qog'ozlarni sol – ol	to put – to take the papers
Қаламни синдир – чиқар	Qalamni sindir – chiqar	to sharpen – to break the pencil
Полни супур –арт	Polni supur - art	to mop – to sweep the floor

Appendix 4

Individual scores of NBD speakers on production test.

Part	1. PrC	2 PasP	3 FutP	4 PasC	Total	%
ZR	10	10	10	10	40	100
AU	10	10	10	10	40	100
AA	10	10	10	10	40	100
DH	10	10	10	7	37	94
QX	10	10	10	10	40	100
IT	10	10	10	10	40	100
OT	10	10	10	10	40	100
MO	10	10	10	7	37	94
NO	10	10	10	10	40	100
LA	10	10	10	10	40	100

Note. PrC- Present Continuous, PasC-Past Continuous, PasP – Past Perfect, FutP - Future Perfect.

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