Simultaneous attention to meaning and form during aural second language input processing.

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第二言語聴覚インプットの処理における意味と形式への注意

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要旨

インプット処理理論によって、第二言語学習者は認知資源が限られ、意味に焦点をあててインプットを処理するため、形式への注意が不足しているとされている。 本研究では、学習者が意味に注意を向けながら形式を処理できるかについて実験を行い、検証した。意味を注意する群、形式を注意する群と統制群に日本語のテキストを聞かせながら、処理タスクを行った。タスク後、テキスト内容の理解を測定した結果、三つの群の間に有意な差が見られなかった。それは、より深い水準での処理を求めるタスクの場合、学習者が冗長的な形式へも注意を向けることができるという結論になった。

キーワード：インプット処理、意味優先、注意、形式と意味、助数詞

1．Introduction

Grammar teaching has drawn attention when communicative language learning became popular. Natural usage of language, communicative tasks and content-based teaching has often resulted in neglecting language forms and grammar. Learners who studied in communicative language classrooms often showed poor grammar knowledge both in comprehension and production, and the question how to teach grammar within communicative context became essential in second language research.

B. VanPatten (2002) proposed a communicative grammar teaching method called Processing Instruction (PI) that pushes the learners away from wrong strategies towards correct processing and, hence, prompts the acquisition of the target form. Although often confused in the literature, PI is distinguished from its theoretical underpinnings summarized as Input Processing (IP) theory, which describes default strategies and inner mechanisms that learners use during processing (VanPatten, 2004). In other words, IP theory provides pedagogical treatment of PI with theoretical insights about how learners connect forms and their meanings/functions during exposure to second language input. An inextricable relationship between PI and IP entails the necessity to investigate both theory and pedagogy, suggesting that a deeper understanding of IP could lead to a higher effectiveness of PI.

Although IP theory includes several theoretical perspectives (or Principles), the present study focuses on one of them - Meaning Primacy Principle. Conducting a partial replication of VanPatten's earlier experiment, this study investigates whether the learners can simultaneously process meaning and form during exposure to aural input of second language, considering that answer to this question would

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contribute to the IP theory and give important implications for PI teaching of grammar.

2. Input Processing Theory

As it was mentioned above, the IP theory provides a theoretical rationale for a pedagogic treatment of PI. Though this study does not address the issues of PI directly, and, thus, does not include a detailed review of classroom studies, it is important to indicate that PI is a grammar teaching method that draws learners' attention to meaning of the linguistic form. It is an input-oriented method since learners are not required to produce target forms during activities, and, more importantly, it is a communicative way of teaching grammar, that is, the main focus of the classroom and activities is directed to a natural communication and language usage.

The main assumption of IP theory is that human cognitive resources are constrained and only limited information can be processed at a time. Therefore, the mechanism of processing involves some strategies (or principles, given by VanPatten) that help the learners to effectively comprehend incoming information. One of these principles is called Meaning Primacy Principle (including subprinciples), which states as follows (VanPatten, 2004).

Principle 1. Learners process input for meaning before they process it for form.

Principle 1a: Learners process content words in the input before anything else

Principle 1c: Learners are more likely to process nonredundant meaningful grammatical form before they process redundant meaningful forms.

During natural communication or communicative activities, the focal point is on meaning; thus, during processing learners tend to give preference to the meaning, not the form. Principle 1 is the Meaning Primacy Principle that assumes that learners seek to catch the communicative intention (meaning) of the message they receive aurally or visually. However, at the first stages of acquisition this process is constrained by limited resources, which leads to a usage of strategy such as reliance on content words (subrinciple 1a). This strategy usage is supported by the fact that content words are usually more phonetically and semantically salient than grammatical markers. Relying on content words creates difficulties in processing items that do not hold enough meaning - grammatical structures. Besides, there is an issue of redundancy, when more than one form in the sentence encodes the same semantic information. According to the subprinciple 1c, learners tend to process the structures that are not redundant, that is, they do not carry information that other forms in the sentence possess.

The term of processing refers to "connecting meaning and form" (VanPatten, 2004), where form refers to "surface features of language" such as functors, inflections, etc. (p. 757). When learners process input, not all the forms are connected to their meanings, but only those to which learners pay their attention. Thus, some forms that are not available for attention remain not processed, and, consequently, not acquired. In fact, whether the form is easy to process or not is influenced by its communicative value that consists of two dimensions: "meaningfulness", or inherent semantic value, and "redundancy in the sentence" (Bransdorder, 1991). A linguistic structure that is more meaningful and less redundant has higher communicative value, and thus, is processed without difficulties. When a structure is less meaningful and more redundant it becomes more challenging to process.

The present study seeks to contribute to the generalization of the IP theory, or, more specifically, to investigate the theoretical statements of meaning preference claimed by Principle 1, and subprinciples 1a, 1c, by testing the hypotheses of previous research with consideration of some theoretical, methodological and populational issues.

3．Empirical research of IP theory.

VanPatten addresses the issue of preference for meaning over form during processing input in his experiment (VanPatten, 1990) in which learners were instructed to process oral input under four different conditions: paying attention to the meaning only, meaning and noun (structure with higher communicative value), meaning and definite article (lower communicative value), meaning and verb morpheme of past time (lowest communicative value). VanPatten assumed that paying simultaneous attention to the meaning and low communicative value item would negatively affect comprehension of the oral text, whereas attention to the meaning and highly communicative noun would not show any negative effects on comprehension. This hypothesis was supported by finding that attention to past time inflection resulted in lowest number of free recalls, and the group that had attended to noun did not vary in number of recalls from the group that had attended to meaning only. The conclusion was that processing of less meaningful and redundant structures had indeed influenced comprehension negatively.

The original study of VanPatten (1990) was followed by several experiments testing the same hypothesis in aural and written mode (Greenslade et al. 1999; Wong, 2001; Leow et al. 2008) and showing mixed results. Greenslade et al. (1999) replicated the experiment with only changing aural mode to written, and, as in the original study, found that at early stages of acquisition simultaneous attention to form and meaning is difficult for learners. On the other hand, a study by Wong (2001) compared two modalities and the results revealed no significant difference between “meaning only” group, “meaning and article” group, as well as between “meaning and noun” group and “meaning and article” group in written mode. However, in the aural mode the results were similar to VanPatten (1990), suggesting that in written mode processing of meaning and form might be constrained differently than in the aural mode.

Another partial replication (Leow et al. 2008) addressed methodological issues of the previous studies by quantitative and qualitative analyses of five groups’ performance: learners of experimental groups were requested to read a text and circle one of four target structures of different communicative value, and control group was listening to the text only. They found no significant difference in comprehension among all five groups and discussed these findings from perspective of modality, methodology and levels of processing. I will review them more extensively in the next paragraphs.

First, comparing different modalities has been addressed directly by Wong (2001), who concluded that in written mode attention to meaning and form might be more complex and include such factors as the nature of the form being attended and typographical cues. Leow et al. (2008) also points out that in written mode “requesting L2 readers to process a text for meaning while paying attention to specified form did not appear to have had a differential effect on reading comprehension” (p.683). However, aural mode discussion still remains open. Although Wong showed that during listening task attention to a noun did not interfere with comprehension while attention to a definite article (free morpheme) did, she omitted the condition where learners were to pay attention to meaning and a bound morpheme (verb inflection). Hence, the question of simultaneous attention towards meaning and form (bound morpheme) still needs more empirical evidence. The present study addresses the question of simultaneous attention in the case of listening comprehension under three conditions: paying attention to meaning only, paying attention to meaning and form with higher communicative value, and paying attention to meaning and form with lower communicative value which is considered a bound morpheme.

Second, methodology issue refers to the materials and procedure for the task. As Leow et al. (2008)

noted, distribution of the target structures in the text was not homogenous in the original study by VanPatten: one paragraph contained more than 60% of all occurrences of one target form (verb morpheme), whereas another paragraph included 82% of all occurrences of another target form (noun). This differential quantity of exposure in experimental groups might have influenced the results. Another point regards assessment: VanPatten used free-written recall test to measure comprehension. However, the results show that overall performance was low (control group in VanPatten's study had highest number of recalls M=19.15 out of 53 idea units). In order to avoid low scores, Leow et al. employed a 10-item multiple-choice test to assess comprehension of the text. The present study considers these two methodology issues by balancing the distribution of the target structures in the text (both target structures obligatorily co-occur in the text), and conducting a multiple-choice test to assess comprehension.

The last issue raised by Leow et al. regarding the original experiment is the level of processing. The original attention-drawing task had a simple request to put a checkmark every time when learners heard the target form (VanPatten, 1990; Wong, 2001), or to circle the target form in the text (Greenslade et al., 1999; Wong, 2001; Leow et al., 2008). However, an additional qualitative analysis conducted in Leow et al. (2008) showed that only a few participants in the experimental groups had interpreted the meaning of the target form. The rest of the participants' reports showed no interpretation of the structure, which the researchers claimed as shallow processing. Deeper levels of processing such as "elaborating, commenting on, interpreting, or translating the targeted forms" (p.685) occurred minimally, which might have affected no significant difference among groups. To make sure that all participants do process the forms at relatively deeper levels than just a simple check-marking, the present study conducts a task that requires interpreting the meaning of target forms and, based on this meaning, put a correct answer for the task. I will present a detailed procedure of the task in the methodology section below.

The present study is considered to be another partial replication of VanPatten (1990), which takes into account the issues given by other experimental replications, such as addressing oral mode, revising methodology (target form distribution and assessment test) and controlling processing level during the task. Another important point is the target structures chosen for the current experiment. I will discuss it in the next section.

4. Target structure

Japanese language has a numeral classifier system - a set of classificatory morphemes, which are obligatory in expressions of quantity. For instance, if in English it is possible to say "*three students*" or "*five books*", in Japanese the numeral will be followed by a classifier for people or books: "*san-nin-no gakusei*" where "*san*" is a numeral "*three*", "*nin*" is a numeral classifier for people, "*no*" is a genitive marker, and "*gakusei*" is the noun being classified – "*student*". Although in English, some words have classifying functions as "*sheet*" in "*two sheets of paper*", they are not required for enumeration of most referents, where as in Japanese almost all referents need a classifier for enumeration. Another similar classifying system existing in both languages like English and languages like Japanese is measure partitive nouns such as "meter", "liter", "kilogram" etc., which are usually used to measure size, length, mass, or volume and does not usually denote any inherent characteristics of the classified referent. Downing (1996) gives three characteristics of Japanese numeral classifiers to distinguish them from similar classifying words: "first, it may directly follow a numeral; second, it readily co-occurs with a noun denoting the referent whose number is indicated by the numeral-classifier construction; third, it

denotes a natural unit of the referent, whose characteristics dictate its choice" (p. 16). The present study follows this definition in referring to Japanese numeral classifiers.

Though Japanese language contains more than 500 numeral classifiers, native speakers frequently use only a limited number (Iida, 2004). In teaching Japanese as foreign language, students learn these very frequent, basic numeral classifiers at very early stage, because they need to use classifiers to express plurality and enumeration. In teaching Japanese to the native speakers of languages that do not have numeral classifiers, these items are taught as grammar markers for counting. In this study I define Japanese numerals as content words and numeral classifiers as function words. This choice accounts for several theoretical and methodological issues discussed in previous research.

First, Carroll (2004) indicates that learners' attention to content words might only occur due to its phonological saliency. In earlier studies the target content words such as nouns (for example, "*inflation*", Wong) were, indeed, phonologically more salient than articles ("*the*", Wong) or verb inflections ("*-n*", VanPatten's study). Moreover, when content and function words were controlled for phonological length (Leow et al., 2008), there was no significant difference among the groups. Thus, a possible critique of IP theory can claim that paying attention to different forms in input is affected by simple phonological properties, not communicative value of the form. To address this issue, in the current study both single numerals and basic classifiers had one or two syllables and the content word (numeral) never was phonologically longer than the function word (classifier). Second, from the perspective of IP theory, numeral classifier can be classified as low communicative form. As it was already mentioned above, Japanese numeral classifier is a morpheme obligatorily used in enumerating or quantifying. However, for learners whose first language does not require usage of numeral classifiers this morpheme can be assumed as one of low communicative value, because it contains the same semantic information as the noun in the sentence. As the Principle 1c states, learners tend to process nonredundant meaningful forms before redundant ones. The last issue refers to methodology, that is distribution of target items in the text might influence the attention of the learners (Leow et al., 2008). Japanese numerals and numeral classifiers always occur together in a sentence, which makes it possible to control dispersion of the target items in experimental groups.

Following previous research, this study aims to investigate simultaneous attention to form and meaning, raising a question whether learners can process meaning and form in the aural input simultaneously, in the case when the form is meaningful and redundant and when the task requires a deeper processing of the form.

5. Method

67 students from two universities in Russia participated in the experiment. These were 2nd-4th year students from different majors who had attended Japanese language courses within a regular Russian university foreign language program. The Japanese language proficiency assessed by SPOT (Japanese Simple Performance-Oriented Test) did not vary between M University (N＝45, M＝36.67, SD＝11.49) and B University (N＝22, M＝33.64, SD＝12.06); t(44)＝1.686, p＝.95.

All the participants were randomly assigned to one of three groups. The classifier group listened to a text and simultaneously performed a listening task, which required them to pay attention to numeral classifiers. The numeral group listened to the same text and performed a task that required attention to numerals. Both experimental groups were asked to listen to the text and understand its content. The control group listened to the text for comprehension only. After listening to the text all participants answered comprehension test questions regarding the content of the text.

To test Japanese proficiency all the learners received Japanese Simple Performance-Oriented Test (SPOT) before listening task (Kobayashi, 1996). This test is a Japanese language proficiency test developed at Tsukuba University that allows assessing Japanese proficiency with minimal resources of time and materials. The test version used in the current experiment consisted of 65 Japanese cloze sentences spoken by a native speaker at a pace close to natural. Each sentence had one syllable removed, so the participants had to fill in the blank according to the text they listened to.

Since the listening task was unusual for the participants, they received a training session that consisted of listening a short text in the same way as in the experiment.

6. Materials

Classroom textbooks and syllabus from both universities were analyzed, and only grammar and vocabulary that had been learnt by the time of the experiment was included into the text. The text also contained numeral classifiers and numerals (8 items) that were also familiar to the participants. The full text is presented in Appendix A. A native Japanese speaker read the text at a speed lower than normal for recording. A pilot study with two participants showed that the text speed and difficulty were appropriate. The length of the recording was 2 min 19 sec.

In order to unify the same level of processing during task, the listening task was designed in a different way than in VanPatten (1990). As think-aloud protocols show, processing lexical or grammatical items during listening may be of different levels: from shallow noticing to deeper levels such as translating or explanations (Leow et al., 2008). Thus, it is difficult to say if the connection of meaning and form occurred when a learner put a checkmark after hearing the target structure.

In this study listening task requires learners to map meaning and form by identifying the proper numeral classifier/numeral and the noun, which it refers to. When they heard a classifier/a numeral in the text they had to write down the referent that was counted. For instance, if the text had "*neko -ga ni-hiki*" ("*neko*" - "*cat*", "*ga*" – subject marker, "*ni*" – "*two*", "*hiki*" – numeral classifier for small animals), participants in classifier group had to write "cat" in the sheets when they heard the structure. Participants in numeral group had to write the same "cat" after they heard the same structure. Appendix B includes the instructions of the listening task and sample of answer sheets of the both groups.

After the listening task all the participants were asked to answer questions about the text. The original study assessed comprehension by free-recall tests, but the result showed that only 30% of whole idea units were available for analyses (VanPatten, 1990). As further research showed, multiple-choice questions could be used as comprehension test as well (Leow et al., 2008).

In this study comprehension test consisted of 12 multiple-choice questions. Each question was asking about information located right after each target item in the text.

7. Results

Listening task means are shown in Table 1.

In previous studies participants had to process at least 60% of the target forms in order to be included in the pool. This means that 60% of all target items that occurred in the text should have been correctly written during the listening task. The average number of target items in the present study was M=3.5 out of 8, thus, only data from participants who processed four or more items was analyzed (n=48): 17 participants from classifier group and 12 participants from numeral group.

Table 1.　Listening task scores by groups

Group	Mean	SD	N
Control	0	0	0
Classifier	3.96	2.12	23
Numeral	3.44	1.78	25

Table 2.　SPOT scores by groups

Group	Mean	SD	N
Control	34.68	9.40	19
Classifier	42.06	12.82	17
Numeral	40.50	10.68	12
Total	38.75	11.31	48

Table 3.　Comprehension test scores by group

Group	Mean	SD	N
Control	7.16	2.19	19
Classifier	7.12	1.99	17
Numeral	7.58	2.15	12
Total	7.25	2.08	48

The SPOT test scores (Table 2) did not vary significantly among the groups ($F(2, 45) = 2.20$, $p = .12$), which means that Japanese language proficiency of the participants was homogenous.

The means of the comprehension test of the control group, the numeral group and the numeral classifier group are shown in Table 3.

To compare the comprehension test means, I conducted one-way ANCOVA with a between-subject factor (group) and covariate (SPOT score). The results showed no statistical difference among three groups, $F(2, 44) = 0.799$, $p = .46$. In other words, paying simultaneous attention to numeral and numeral classifier did not have a significant effect on Japanese learners' comprehension of the text.

8．Discussion

The findings of the present study revealed that paying attention to a content word (i.e., numeral) or a function word (i.e., numeral classifier) did not have any differential effect on listening comprehension. These findings differ from the results in aural mode by VanPatten (1990) and Greenslade et al. (1999), suggesting that in aural mode simultaneous attention to form and meaning might be biased by other factors, which I will discuss below.

A plausible explanation for the difference found in aural mode might be due to a deeper level processing during the task. Craik & Lockhart (1972) proposed the concept of depth of processing by suggesting that shallow (phonological) processing involves analysis of physical and sensory features, whereas deep (semantic) processing is concerned with extraction of meaning. Thus, deeper level implies a greater degree of semantic analysis. As Leow et al (2008) revealed, most of participants in their study processed the target form shallowly, that is simply circled it, without translating, commenting on, elaborating or interpreting it during task. The authors concluded that "low level of processing did not appear to have created any differential cognitive overload while processing for meaning" (p. 686). The present study controlled the depth of processing by conducting a specific task

which required learners not only to checkmark the target form, but to think about its meaning and to correspond it with the meaning of the referent being counted. Participants did indeed process the target forms for their meaning, and relatively low performance on the task might serve as evidence for that. Average number of processed items is 3.5 out of 8, which proves that cognitive load of the task was high enough to influence attentional resources. Besides, there was a substantial number of participants who wrongly processed the classifier "*-mai*": instead of writing a noun "*seaweed sheet*", they wrote "*fish*", which is usually counted by the same classifier, but was not counted in the text. This demonstrates that participants indeed comprehended the meaning of the target form because they did pay attention to the meaning of the "*mai*" as "flat thin" things.

However, the results showed that even in case of deeper processing there was no significant difference between participants paying attention to numeral and numeral classifier. Put in line with previous studies, this finding will be discussed from IP theory perspective. The principle states that learners process input for meaning, where processing refers to "making meaning-form connection" without specifying the extent to which the processing occurs (VanPatten, 2004, p. 87). In his experimental study VanPatten used the term "attention" which is specified as detection, or "when forms are held in working memory long enough for a meaning to be connected to them" (Marsden, 2006, p. 509). The participants in his experiment (and further replications) detected the target item by simply check-marking it when they heard it in the input. In terms of depth of processing, this task required only phonological processing without involving interpretation of form. Participants in the present study had to interpret the target form for its meaning in order to perform the task, that is, they processed the form more deeply than the participants of VanPatten, or, in other words, implemented semantic processing. As a result, even the group who processed function word (numeral classifier) with a relatively low communicative value did not differ from the group who processed content word (numeral) and control group in comprehension test scores. Thus, when a task requires deeper (semantic) processing of a form, opposite to a shallow (phonological) processing, this task triggers comprehension without overloading cognitive attentional resources. In other words, if meaning is of the first primacy, processing of the form can be successful. A partial replication of Leow et al (2008) by Morgan-Short et al. (2012) showed a similar pattern: comprehension scores in 5 groups of participants did not differ according to the task of simultaneous attention to different forms and meaning, and deeper processing was associated with higher scores in comprehension tests. Although Morgan-Short et al. pointed out that their finding was not consistant with the Meaning Primacy Principle of IP theory, it can be argued that their results, as well as the results of the current study, did not contradict IP theory statement, but only shed light on the issue of processing mechanism from perspective of processing depth.

In their experiments, VanPatten (1990), Wong (2001) and Greenslade et al. (1999) ask a question whether learners can process form and meaning at the same time, and give a negative answer to support Meaning Primacy Principle. On the other hand, Leow et al., Morgan-Short et al, as well as the present study, show that learners can process form and meaning if processing is semantic, or meaningful. The difference between these results lies in the meaningfulness of processing: the deeper the level of processing is, the more comprehension occurs. This is, indeed, the idea of PI grammar treatment, which states that learners prefer meaning to form; and to make them process form activities should be designed in such a way that learners can process the form semantically. PI aims to alter the problematic processing, that is, to push the learners from default strategies that lead to grammar mistakes (PI studies are reviewed in VanPatten, 2013). PI tasks - referential activities - are designed in such a way that learners do not process input in a way that IP theory principles predict. These tasks overcome the wrong processing because they have "only one correct answer that is determined

through correct interpretation of the target form" (Potowski et al., 2009, p. 551). That is, in order to get the only right answer, learners must attend to the meaning of the target form. It can be argued that PI tasks require learners to process form semantically (deeply) in order to connect it to its meaning. The results of the current study support this idea with the evidence that deeper processing does not negatively affect comprehension.

9. Conclusion, application and limitations of the study

The current study is a partial replication of the research conducted on IP theory, and Meaning Primacy Principle, particularly. Russian learners of Japanese and Japanese numerals and numeral classifiers as target forms of the experiment could imply the possibility of generalization of the theory.

Although the findings did not replicate the results of the original study of VanPatten (1990), they do not conflict with the notion of IP theory. In this study, learners could process form and meaning simultaneously because the task required them to process the form semantically, when the original experiment involved only shallow processing of the form. Further investigations on the nature of processing, including the depth of processing, would provide the IP theory with more evidence about the process of comprehension.

The main finding of this study is that in case of deeper processing learners can successfully process redundant forms in the input, which provides important implications for teaching grammar: tasks that require deeper processing of the grammar form would lead to better processing. PI techniques proposed by VanPatten adopt this idea and include special set of tasks aiming semantic processing of the grammar form. This instruction method has proved to be effective (Shintani et al., 2013) in teaching Spanish, French, English and other grammars, and, thus, may be applied to teaching Japanese as foreign language, as well.

However, several limitations remain. Due to availability of resources, the present study presents only a small-sampled experiment. A greater number of participants, various comprehension testing measures, as well as target item acquisition tests would have given a broader understanding of the features of input processing and more evidence about relationship between processing and acquisition of the target item. Another issue, which should be addressed in further studies, is the choice of the target item in the experiment. In the present study numeral classifier was presented as a function word, but its nature is more complex in sense of communicative value: though it might be redundant for learners whose native language does not have classifiers, it carries meaning, which might make it easier to comprehend. Thus, direct comparing of different grammar forms in the experiment might show different patterns in results. These limitations of the current study might become further implications towards future research on input processing theory.

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Appendix A. Text

太郎の一日

太郎さんは東京に住んでいます。家族は奥さんと子どもが 3 人います。太郎さんは大学で英語を教えています。奥さんは医者です。子どもは学校に通っています。

土曜日に太郎さんの奥さんは友達と旅行に行きました。太郎さんは子どもと近くの公園に出かけました。公園にはねこが 2 匹いました。子どもはねこにパンをあげて遊んでいました。持ってきたパン 4 枚を全部ねこに食べさせました。とても楽しい時間でしたが、みんなが疲れて、お腹が空いてきました。「ご飯を食べよう」と太郎さんが言って、みんなでショッピングセンターに行きました。

土曜日のショッピングセンターは人が多くて、にぎやかです。太郎さんは車を止めて、子どもたちとまずレストランに入りました。テーブルが 6 台しかない小さいレストランでしたが、あまり人がいませんでした。パスタとピザを食べて、ジュースを飲んで、少し休んでからみんなで買い物に行きました。太郎さんは子どもたちにおもちゃと、ゲームの雑誌を 3 冊買いました。奥さんに新しい洋服を買いましたが、自分のためには何も買いませんでした。

帰る時間になりました。家の冷蔵庫に魚とのりが 1 枚残っていたので、太郎さんは晩ご飯に子どもが大好きなすしを作ろうと思いました。そのために、地下のスーパーでたまごを 5 個、きゅうりを 2 本買いました。夜はすしを食べながら、太郎さんは冷たいビールを飲んで、「幸せだな」と思いました。

Appendix B. Task (experimental groups)

Classifier group	Numeral group
Listen to the text and try to understand the content of it. At the same time pay attention to counting morphemes. Below there is a list of counting morphemes that occur in the text. As soon as you hear a counting morpheme from the list, fill in a word that was counted by that counting morpheme. You can write it in Russian or Japanese. The same counting morpheme can occur more than once. Please, write down all the subjects that were counted by that counting morpheme in the text. For example, if you heard お水を２杯飲みました　in the text, you should answer as follows: 杯（はい）　*water (or みず, 水, etc.)* As you are listening to the text do not forget that you should understand its meaning. List of the counting morphemes 個（こ）　＿＿＿＿＿＿＿＿ 本（ほん）　＿＿＿＿＿＿＿＿ 人（にん）　＿＿＿＿＿＿＿＿ 匹（ひき）　＿＿＿＿＿＿＿＿ 枚（まい）　＿＿＿＿＿＿＿＿ 冊（さつ）　＿＿＿＿＿＿＿＿ 台（だい）　＿＿＿＿＿＿＿＿	Listen to the text and try to understand the content of it. At the same time pay attention to numbers. Below there is a list of numbers that occur in the text. As soon as you hear a number from the list, fill in a word that was counted by that number. You can write it in Russian or Japanese. The same number can occur more than once. Please, write down all the subjects that were counted by that number in the text. For example, if you heard お水を２杯飲みました　in the text, you should answer as follows: ２（に）　*water (or みず, 水, etc.)* As you are listening to the text do not forget that you should understand its meaning. List of the numbers １（いち）　＿＿＿＿＿＿＿＿ ２（に）　＿＿＿＿＿＿＿＿ ３（さん）　＿＿＿＿＿＿＿＿ ４（よん）　＿＿＿＿＿＿＿＿ ５（ご）　＿＿＿＿＿＿＿＿ ６（ろく）　＿＿＿＿＿＿＿＿

Appendix C. Comprehension test

1) Who is Taro by profession? a) a doctor　b) a teacher c) a driver　d) an engineer	2) Where was Taro's wife on Saturday? a) at work　b) at a restaraunt c) in a trip　d) in a shop	3) What were the children doing at the park? a) feeding cats　b) feeding fish c) playing games　d) reading magazines
4) How many pieces of bread did the cats eat? a) one　b) two c) three　d) four	5) How did the family get to the shopping mall? a) by bus　b) by train c) by car　d) by feet	6) The restaraunt Taro and the children ate at was: a) big and full of people b) big and almost emty c) small and full of people d) small and almost empty
7) What did the family NOT order at the restaraunt? a) pizza　b) juice c) cake　d) past	8) How many magazines did Taro buy to the children? a) one to each　b) two to each c) one to everyone　d) two to everyone	9) What were the magazines about? a) games　b) fishing c) cars　d) sports
10) What did Taro buy for himself? a) magazines　b) shoes c) clothes　d) nothing	11) Why did Taro decide to make sushi for dinner? a) It's easy to make b) He had ingridients at home c) His wife told him so d) Taro likes sushi	12) What did Taro buy at supermarket? a) Eggs and nori b) Fish and cucumbers c) Eggs and cucumbers d) Nori and fish