The Effect of Second Language Instruction on Acquisition of Relative Clauses in the Russian Language

Valentina Nikolayevna Dunn

Brigham Young University - Provo

Follow this and additional works at: https://scholarsarchive.byu.edu/etd

Part of the Other Languages, Societies, and Cultures Commons

BYU ScholarsArchive Citation
https://scholarsarchive.byu.edu/etd/964

This Thesis is brought to you for free and open access by BYU ScholarsArchive. It has been accepted for inclusion in Theses and Dissertations by an authorized administrator of BYU ScholarsArchive. For more information, please contact scholarsarchive@byu.edu, ellen_amatangelo@byu.edu.
THE EFFECT OF SECOND LANGUAGE INSTRUCTION ON THE ACQUISITION
OF RELATIVE CLAUSES IN THE RUSSIAN LANGUAGE

by

Valentina N. Dunn

A thesis submitted to the faculty of
Brigham Young University

in partial fulfillment of the requirements for the degree of

Master of Arts

Center for Language Studies
Brigham Young University
August 2007
BRIGHAM YOUNG UNIVERSITY

GRADUATE COMMITTEE APPROVAL

of a thesis submitted by

Valentina N. Dunn

This thesis has been read by each member of the following graduate committee and by majority vote has been found to be satisfactory.

________________________________________  ________________________________
Date             Grant Lundberg, Chair

________________________________________  ________________________________
Date             David Hart

________________________________________  ________________________________
Date             Wendy Baker
As chair of the candidate’s graduate committee, I have read the thesis of Valentina N. Dunn in its final form and have found that (1) its format, citations, and bibliographical style are consistent and acceptable and fulfill university and department style requirements; (2) its illustrative materials including figures, tables, and charts are in place; and (3) the final manuscript is satisfactory to the graduate committee and is ready for submission to the university library.

Date

Grant Lundberg
Chair, Graduate Committee

Accepted for the Department

Ray T. Clifford
Graduate Coordinator

Accepted for the College

Gregory D. Clark
Associate Dean, College of Humanities
ABSTRACT

THE EFFECT OF SECOND LANGUAGE INSTRUCTION ON THE ACQUISITION OF RELATIVE CLAUSES IN THE RUSSIAN LANGUAGE

Valentina N. Dunn

Center for Language Studies

Master of Arts

The purpose of this research was to test the predictions of the Accessibility Hierarchy (AH) theory (Keenan & Comrie, 1977) applying it to the Russian language. According to this theory, relative clauses (RC) are acquired in a fixed unidirectional order: from subject (S) – the highest (unmarked) and more susceptible to relativization position – to object of comparative (OCOM) – the lowest (marked) and less susceptible to relativization position. Since some researchers (Hamilton, 1994) claim that the AH is multidirectional rather than unidirectional, this study takes into consideration these findings as well. The present study attempts to determine (a) if learners of the Russian language are able to make generalizations about more unmarked RC positions after receiving instruction only on a relatively marked relative clause position (in this study it is OPR – object of a preposition), and (b) if instruction on unmarked relative clause
position facilitates learners’ ability to generalize that learning to marked relative clauses.

Participants of the study were Brigham Young University students studying Russian as a second language. Two groups, the basic treatment group (BG) and the complex treatment group (CG) with a total of fifty-four subjects, completed pretests and posttests, each of which included two elicitation tasks: a combination test (CT) and a grammaticality judgment test (GJT). Both groups received instruction between the tests. The BG received instruction on the subject (S), the direct object (DO), and the indirect object (IO) RC positions. The CG received instruction only on the OPR position. Three types of error, incorrect adjacency, incorrect morphological RC ending, and pronoun retention, were analyzed separately. In addition, the CT investigated the acquisition of pied-piping structure in the OPR and GEN types. The results of the research support Hamilton’s (1994) findings and suggest that generalization is clearly not unidirectional. Regardless of type of instruction the subjects of both groups generalized their learning in both directions.
I am grateful to my committee, Professors Grant Lundberg, David Hart, and Wendy Baker for all their advice, suggestions, assistance, and encouragement throughout my research. I also would like to thank Germanic and Slavic Languages Department Professors Jennifer Bown and Raisa Solovyova for their comments. I am thankful to Linguistics and English Language Department Professors Dee Gardner and Diane Strong-Krause for their feedback, and I would like to thank Statistical Department Professor Dennis Eggett for assistance in performing statistical procedures, and from the Humanities Technology and Research Support Center Professor Harold Hendricks for his assistance in developing audio materials for the tests. I appreciate all the help and support in everything that I wanted to achieve from my husband. I am also grateful to the students who agreed to participate in this study.
# Table of Contents

Chapter One: INTRODUCTION ........................................................................................ 1  
  Research Questions ..................................................................................................... 3  
  Definitions ................................................................................................................... 3  
  Restrictions of Research ............................................................................................. 4  

Chapter Two: LITERATURE REVIEW ............................................................................ 5  
  2. 1 Accessibility Hierarchy ........................................................................................ 5  
  2. 2 Strategies for forming relative clauses ................................................................. 9  
  2. 3 The position of the relative clause in the matrix sentence ..................................... 12  
  2. 4 Scaffolding in acquiring relative clauses ........................................................... 14  
  2. 5 Effect of instruction on relative clause acquisition ............................................ 16  

Chapter Three: METHOD ................................................................................................ 25  
  3. 1 Pilot Study .......................................................................................................... 25  
  3.1.1 Subjects ............................................................................................................ 25  
  3.1.2 Instruments ....................................................................................................... 25  
  3.2 Concluding Study ................................................................................................ 26  
  3.2.1 Subjects ............................................................................................................ 26  
  3.2.2 Instruments and Procedures ............................................................................. 28  
  3.2.2.1 Structure of Combination Test ...................................................................... 29  
  3.2.2.2 Scoring of Combination Test ........................................................................ 30  
  3.2.2.3 Structure of Grammaticality Judgment Test ................................................. 32  
  3.2.2.4 Scoring of Grammaticality Judgment Test ................................................... 33  
  3.2.2.5 Treatment ...................................................................................................... 33
Chapter Four: RESULTS AND DISCUSSION

4.1 Data recording procedure

4.2. Statistical Procedure

4.3 Results

4.3.1 Pretest factor and matrix position

4.3.2 Relative clause type

4.3.3 Error type

4.3.4 Interactions

4.3.5 Pied-piping structure

4.4 Discussion

4.5 Conclusion

Chapter Five: CONCLUSIONS AND RECOMMENDATIONS

References

APPENDICES

Appendix 1: Questionnaire

Appendix 2: Combination Test

Appendix 3: Grammaticality Judgment Test

Appendix 4: Scoring Rubric for CT

Appendix 5: Scoring Rubric for GJT
List of Tables and Figures

Tables

Table 2.1: The Accessibility Hierarchy .............................................................................. 5
Table 2.2: Relativization Positions Available in English and Russian ......................... 7
Table 2.3: Usage of Case-Coding Strategy in English and Russian ................................. 12
Table 3.1: The Number of Subjects in Each Group .......................................................... 27
Table 3.2: The Average Age of the Subjects .................................................................... 27
Table 3.3: Reliability Coefficient Measured by Cronbach Alpha .................................... 29
Table 3.4: Subject and Object Matrix Positions on CT .................................................... 29
Table 3.5: Examples of Subject and Object Matrix Positions on GJT ............................. 32
Table 4.1: ANOVA for Combination Test ....................................................................... 38
Table 4.2: Means and Standard Deviations for CT ........................................................... 39
Table 4.3: ANOVA for Grammaticality Judgment Test ................................................... 40
Table 4.4: Means and Standard Deviations for GJT ......................................................... 40
Table 4.5: Gains in Morphology on CT by Relative Clause Type ................................... 51
Table 4.6: Gains in Morphology on GJT by Relative Clause Type ................................. 53
Table 4.7: Gains on CT and GJT by Error Type for Both Groups ................................. 55

Figures

Figure 4.1: Gains on CT by Matrix Position Type ........................................................... 41
Figure 4.2: Gains on CT by Matrix Position Type for Each Group ................................. 42
Figure 4.3: Gains on GJT by Matrix Position Type .......................................................... 42
Figure 4.4: Gains on GJT by Matrix Position Type .......................................................... 43
Figure 4.5: Gains on CT by Relative Clause Type ........................................................... 43
Figure 4.6: Gains on CT by Relative Clause Type for Each Group ......................... 44
Figure 4.7: Gains on GJT by Relative Clause Type ................................................. 44
Figure 4.8: Gains on GJT by Relative Clause Type for Each Group ....................... 45
Figure 4.9: Gains on CT by Error Type ................................................................. 45
Figure 4.10: Gains on GJT by Error Type .............................................................. 46
Figure 4.11: Interactions between Relative Clause Type and Error Type on CT .......... 46
Figure 4.12: Interactions between Relative Clause Type and Error Type on GJT ...... 47
Figure 4.13: Interactions between Treatment and Error Type on GJT ..................... 47
Figure 4.14: Gains on CT by Pied-Piping Structure for Each Group ...................... 48
Figure 4.15: CT Pretest Results by Treatment, Error Type, and Relative Clause Type... 50
Figure 4.16: CT Posttest Results by Treatment, Error Type, and Relative Clause Type . 50
Figure 4.17: GJT Pretest Results by Treatment, Error Type, and Relative Clause Type . 52
Figure 4.18: GJT Posttest Results by Treatment, Error Type, and Relative Clause Type 52
Chapter One: INTRODUCTION

Many researchers claim that the acquisition of linguistic characteristics in a second language (L2) follows a common sequence regardless of the properties of the first language (L1). The approach of the order of acquiring relative clauses (Tarallo & Myhill, 1983; Hyltanstam, 1984; Pavesi, 1986; Park, 2000; Izumi, 2003; Jeon & Kim, 2007) is widely discussed.

The Accessibility Hierarchy (AH) (Keenan & Comrie, 1977) suggests that acquisition of relative clauses follows universal hierarchy. In their study, Keenan and Comrie investigated approximately fifty languages and found that there are “absolute statements” (Van Naerssen, 1979) that are true for each of the languages regardless of their own unique particularities. The AH suggests that all languages are able to form a relative clause in subject position which starts the range of relative clauses: subject (S), direct object (DO), indirect object (IDO), object of preposition (OPR), possessive (POSS), and object of comparison (OCOM). Because all languages relativize on the subject, this position is considered to be the easiest or the most accessible for relativization. According to the AH, the language must relativize on all adjacent positions starting with the subject and may stop relativizing at any position less accessible to relativization1.

A number of studies in various languages have been done to test the AH (Tarallo & Myhill, 1983 for Chinese, Japanese, Persian, German, and Portuguese as L2; Hawkins2, 1989 for French; Pavesi, 1986 for English as L2, and Croteau, 1995 for

---

1 For more on ceasing relativization, see pg. 6-8.
2 He suggests that L2 learners build rules about RC not by the grammatical relations (functions of S, DO,
Italian). These researchers either support or question the acquisition hierarchy established by Keenan and Comrie.

Other researchers (Gass, 1982; Eckman et al., 1988; Doughty, 1991; Croteau, 1995; Yabuki-Soh, 2007) proposed that the order of teaching relative clauses can influence the learner’s acquisition of relative clauses. Their empirical studies show that, as the AH is in play, second language learners acquiring relative clauses are able to make generalizations about relative clauses more accessible to relativization if they have knowledge about less accessible relative clauses. In other words, generalization is unidirectional: from complex or marked relative clauses to simple or unmarked ones.

Hamilton (1994) questions unidirectness of generalizations. He suggests that the AH is rather bidirectional and cumulative than unidirectional. Learners start acquiring new RC types from the one they already know and acquisition may go to either marked or unmarked direction. In fact, not one, but more than one type of RC may be acquired after instruction. For example, if before instruction the learner knew the S and DO relative clause types, then after instruction he/she can acquire not only IDO, which is next in the hierarchy of difficulties, but also OPR or even GEN and OCOM.

All this research has been done with English as a second language (ESL) and some other languages (Chinese, Japanese, Persian, German, French, and Italian). No research regarding relative clause acquisition and the effect of instruction for Russian as a second language was found. It is interesting to investigate if the Russian language as one of other highly declensional European languages follows the same patterns of learnability. Therefore, in this research I will examine if the students learning the Russian
language make generalization based in the instructions they receive and in which direction.

**Research Questions**

Are Russian language learners who received instruction in **marked** relative clauses able to generalize that learning to **unmarked** relative clauses?

Are Russian language learners who received instruction in **unmarked** relative clauses able to generalize that learning to **marked** relative clauses?

**Definitions**

The following definitions are intended to explain the important concepts used in this research:

1. **Students** refer to adult students at a postsecondary school level.

2. **The Russian language** refers only to written forms of the Russian language. The research questions were tested only by written tests.

3. **Head of the noun phrase** (NP) refers to the noun in the main clause which is modified by the adjacent relative clause.

4. **Relative clause** refers to a subordinate/dependent clause which has relative pronouns *that, who, which, whom,* and *whose* in English and the relative pronoun *kotoryj* in Russian and modifies the noun or noun phrase to which it is connected. This research does not take into consideration the distinction between restrictive and non-restrictive relative clauses in English and Russian.

5. **Main clause** refers to the independent clause containing the noun phrase which the relative clause modifies.

6. **Relativization** refers to the relationship between the NP and the relative clause.
7. **Position of relative clause** refers to the place the relative clause occupies in the sentence in respect to the NP.

8. **Left-branching relative clause** refers to the relative clause that precedes the modified NP.

9. **Right-branching relative clause** refers to the relative clause that follows the modified NP.

10. **Unmarked relative clause position** refers to easily accessible relativization positions, such as subject and object.

11. **Marked relative clause** position refers to less accessible relativization positions, such as genitive and object of comparative.

12. **Subject matrix position of the relative clause** refers to the relative clause which is embedded into the main clause. In this instance, the modified NP is a subject of the main clause.

13. **Object matrix position of the relative clause** refers to the relative clause which is attached to the main clause. In this instance, the modified NP is an object of the main clause.

**Restrictions of Research**

This study has the following restrictions:

1. The study concerns itself only with written forms of the Russian language.

2. This study concerns itself only with relative clauses of the Russian language with the relative pronoun *kotoryj*.

3. Although this study reports on empirical research, the size of the sample is relatively small leaving generalizations for a larger population in question.
Chapter Two: LITERATURE REVIEW

2.1 Accessibility Hierarchy

The AH (Keenan & Comrie, 1977) is based on typological markedness of relative clause types: subject (S), direct object (DO), indirect object (IDO), object of preposition (OPR), possessive (POSS), and object of comparison (OCOM). In this spectrum the S position is the easiest or more accessible for relativization than those which are on the right side of S (Table 1). This range progresses from the most accessible for relativization (the S position) to the least accessible (the OCOM position). In other words, the S position is considered unmarked; whereas OCOM is considered highly marked.

Table 2.1: The Accessibility Hierarchy

<table>
<thead>
<tr>
<th>S &gt; DO &gt; IDO &gt; OPR &gt; POSS (GEN)³ &gt; OCOM</th>
</tr>
</thead>
<tbody>
<tr>
<td>← unmarked marked →</td>
</tr>
<tr>
<td>← high low →</td>
</tr>
<tr>
<td>&gt; means “more accessible than”</td>
</tr>
</tbody>
</table>

A universal hierarchy applies to both right-branching and left-branching languages (Keenan & Comrie, 1977). In right-branching languages, a relative clause is postnominal and is placed after the modified noun phrase (NP); whereas in left-branching languages, a relative clause is prenominal and is placed before the modified NP. English, Russian and many other European languages are right-branching; and Korean, Chinese, Chinese,

³ Some researchers name this position POSS (possessive), whereas others name it GEN (genitive).
and other Asian languages are left-branching (Keenan & Comrie, 1977; Song, 2001). Regardless of the origin of language the hierarchy “reflects the ease of relativization” (Gass, 2001, p. 146).

English is one of the languages that includes all of the relative clause grammatical categories from the S position to the OCOM position:

S:  the girl [who speaks Russian fluently]
DO:  the article [which I translated into Russian]
IDO:  the student [whom we gave the Russian dictionary to]
OPR:  the Russian magazine [that I am looking for]
POSS:  the student [whose essay is in Russian]
OCOM:  the woman [who I am older than]4

However, not all languages distinguish all of these grammatical categories (Keenan & Comrie, 1977). For example Russian does not have the OCOM position, expressed a syntactic structure with the relative pronoun kotoryj.

S:  девушка, [которая свободно говорит по-русски]  
devuška, kotoraja svobodno govorit po-russki  
the girl who speaks Russian fluently

DO:  статья, [которую я перевел на русский язык]  
statia, kotoruju ja perev’ol na russkij yasyk  
the article which I translated into Russian

IDO:  студентка, [которой мы дали словарь русского языка]  
studentka (f), kotoroj my dali slovar’ russkogo yasyka  
the student whom we gave the Russian dictionary to

OPR:  русский журнал, [в котором напечатана интересная статья]  

4 The example was taken from Pavesi (1986).
In the last category (POSS), there is a noun-possessor preceding the relative pronoun. Depending on the relative pronoun function and, therefore, on its case, the relative pronoun either has or does not have a preposition in front of it. In this study I will only deal with POSS in the genitive case because Russian textbooks for non-native speakers include the GEN position as the most marked. Starting now I will address this position as GEN:

**GEN:** студе́нт, [со́чинение ко́торого на русском язы́ке]

student (m), sochinenije kotorogo na russkom yasyke

the student whose essay is in Russian

Table 2 illustrates that English includes all six relativizable positions and Russian includes only five.

Table 2.2: Relativization Positions Available in English and Russian

<table>
<thead>
<tr>
<th>Language</th>
<th>Relativizable positions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>S</td>
</tr>
<tr>
<td>English</td>
<td>+</td>
</tr>
<tr>
<td>Russian</td>
<td>+</td>
</tr>
</tbody>
</table>

+ means that a language forms a relative clause in that NP position.
– means that a language does not form a relative clause in that NP position.
Adapted from Keenan and Comrie (1977, pp. 76-79)
As we see from the examples above, S, DO, and IDO relativization in Russian and English is very similar. In these positions, the relative pronoun occurs clause-initially and links the main and relative clauses together. There are differences in OPR and POSS relativization. For OPR there are two different syntactic structures acceptable in English: preposition pied-piping and stranding (Celce-Murcia & Larsen-Freeman, 1999). Stranding structure is similar to S, DO, and IDO syntactic structures. In other words, the relative pronoun is in a clause-initial position within these types. This occurs by “a movement transformation” (Comrie, 1981, p. 133) or by “relative pronoun fronting” (Celce-Murcia & Larsen-Freeman, 1999, p. 576) when the relative pronoun moves to clause-initial position and the preposition moves to the end of the clause. In contrast, preposition pied-piping structure requires placing the preposition in front of the relative pronoun. In the Russian language in OPR relativization only this type of syntactic structure is acceptable. The preposition must precede the relative pronoun and cannot be moved to the end of the clause. The pied-piping structure is obligatory in Russian (Pulkina & Zakhava-Nekrasova, 1992).

In English POSS relative clauses, the genitive possessor whose generally appears to the left of the possessed item (whose essay). Once again, the front position of the possessor in POSS relative clauses makes it similar to the structure of less marked relative clauses such as S, DO, and IDO. In contrast, in Russian POSS relative clauses, the relative pronoun kotoryj appears to the right of the possessed item (сочинение которого). In this relative clause type the place of the relative pronoun differs from that in less marked relative clause types and is similar to that in OPR type.

---

5 For example, the Russian magazine for which I am looking.
6 For example, the Russian magazine that I am looking for.
The AH proposes some constraints regarding relativization. First, it claims that a language must be able to relativize in the S position. Second, the relativization must be a continuous segment. In English, the relativization carries on from the S position to the OCOM position and in Russian it is from the S position to the POSS position. Finally, relativization may cease to apply at any lower position. In Russian it ceases to apply at the OCOM position. In addition, there are syntactic structural differences in POSS and OCOM relative clause positions in these two languages.

2.2 Strategies for forming relative clauses

Relative clauses differ in syntactic structure among languages. There are four different relativization strategies (Comrie, 1981; Song, 2001):

1. Non-reduction.

Bambara:  
Tyε be [n ye so min ye] dyô.  
man the PRESENT I PAST house see build  
The man is building the house that I saw.  
(Comrie, 1981, p. 138)

2. Pronoun retention.

Persian:  
Hasan mard-i-rā [ke zan (u -rā) zad]  
Hasan man ACCUSATIVE that woman he ACCUSATIVE hit  
mišenāsad.  
knows  
Hasan knows the man that the woman hit.  
(Comrie, 1981, p. 141)

3. Relative pronoun.

Russian:  
devuška [kotoraja pršla]  
girl who-NOMINATIVE arrived  
the girl who arrived  
(Comrie, 1981, p. 142)

4. Gapping or obliteration.

---

7 Because this strategy type deals with internally-imbedded relative clauses, this type will not be discussed in this research.
8 This type of strategy is ungrammatical to the Russian language.
English: \textit{the man who/that gave the book to the girl} \hfill (Comrie, 1981, p. 144)

The strategies listed above are presented from most explicit to least explicit. In the non-reduction strategy, the head noun appears in its full form in the relative clause. In the pronoun-retention type, the head noun of the main clause is referenced in its pronominal form in the relative clause. In the relative pronoun strategy, the relative pronoun is moved to the clause-initial position. Gapping strategy lacks obvious means of identifying the role of the head noun within the relative clause.

In the pronoun-retention strategy, it is necessary to determine the relation of the pronoun within the relative clause. The following example (from Comrie, 1981, p. 140) in non-standard English displays this type of strategy:

\textit{This is the road [that I know where it leads].}

In the relative clause \textit{that I know where it leads} the pronoun \textit{it} restates the head noun \textit{road} within the main clause. This type of strategy is not used in standard English or Russian; however, in many languages pronoun retention is obligatory “without any stylistically pejorative overtones” (Comrie, 1981, p. 140). In Arabic, Batak, Chinese (Pekingese), Czech (colloquial), Hebrew, Persian, and Slovenian (Keenan & Comrie, 1977, p. 93) pronoun retention is used for all relativization types other than the subject.

In relative pronoun strategy, the relative pronoun “instead of being in the usual position, in terms of linear word order, for a pronoun expressing that grammatical relation, […] is moved to a clause-initial position (occasionally preceded by, for instance, prepositions)” (Comrie, 1981, p. 142, Song, 2001) Since this type involves a movement of the relative pronoun, this strategy is considered even less explicit.

\footnote{Because this type is not relevant to the Russian language, this type will not be discussed in this research.}
In this strategy, morphological case marker of the relative pronoun assists in identifying the role of the relative pronoun. Keenan and Comrie (1977) distinguish (+ case RC\textsuperscript{10} strategy), when a relative pronoun morphological marker explicitly tells what function it serves in the relative clause, and (-case RC strategy), when there are no changes in the relative pronoun morphological marker and, therefore, no explicit information about its role is present. The Russian language is a case-coding language because the form of the relative pronoun in the relative clause unambiguously tells us its role in the relative clause. In the following relative clauses the word order is the same and the endings of the relative pronouns are different:

릴ень, [который любит Мэри] and парень, [которого любит Мэри]

paren’, kotoryj l’ubit Mary paren’, kotorogo l’ubit Mary

boy who/that love Mary boy whom love Mary

These endings unequivocally tell us what functions relative pronouns play in each clause. In the first phrase, который [Nominative] functions as subject and in the second phrase, которого [Accusative] functions as direct object. Consider the endings of the relative pronouns in the examples given on pages six and seven:

S: девушка, которая [Nominative] свободно говорит по-русски

DO: статья, которую [Accusative] я перевел на русский язык

IDO: студентка, которой [Dative] мы дали русский словарь

OP: русский журнал, в котором [Prepositional] есть интересная статья

GEN: студент, сочинение которого [Genitive] на русском языке

English distinguishes nominative who and accusative whom considering them as having relative pronoun strategy (Comrie, 1981). Keenan and Comrie (1977) suggest that

\textsuperscript{10} RC means relative clause
English case marked relative pronouns appear in more marked positions beginning with IDO. Table 3 shows that for two positions high on the AH (S and DO) English does not implement case-coding strategy and for all others low on the AH it does.

Table 2.3: Usage of Case-Coding Strategy in English and Russian

<table>
<thead>
<tr>
<th>Language</th>
<th>Relative clause forming strategy</th>
<th>Relativizable positions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>S</td>
</tr>
<tr>
<td>English</td>
<td>1. postnom, -case</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>2. postnom, + case</td>
<td>–</td>
</tr>
<tr>
<td>Russian</td>
<td>1. postnom, + case</td>
<td>+</td>
</tr>
</tbody>
</table>

+ means that a language uses case-coding strategy in regard to (+case) and does not use it in regard to (-case).
– means that a language uses case-coding strategy in regard to (-case) and does not use it in regard to (+case).

Adapted from Keenan and Comrie (1977, pp. 76-79)

2.3 The position of the relative clause in the matrix sentence

In this section I analyze the relationship between the relative and main clauses within a sentence. Whereas the AH “focuses on the positions of the noun phrase that can be relativized” (Izumi, 2003, p. 287), the Perceptual Difficulty (PDH) Hypothesis and the Interruption Hypothesis (IH) concern the relationship between the head noun and the relative clause. In other words, the PDH and IH take into account the position of the modified head noun in the complex sentence as a whole whether the modified noun phrase serves a role as a subject or as an object in the sentence.

The PDH (Doughty, 1991; Izumi, 2003) and the IH (Sadighi, 1994) predict an
order of difficulty for relative clause acquisition with respect to the relationship between
the head noun and the relative pronoun. They consider the relative clause matrix position
in the sentence: where it is inserted in (the S matrix position) or attached to (the O matrix
position) the sentence.

S matrix positions:

SS: Девушка, [которая свободно говорит по-русски], учится в университете.
Девушка, kotoraja svobodno govorit po-russki uchitsja v universitete.
The girl who speaks Russian fluently is studying at the university.

SO: Девушка, [которую мы встретили в библиотеке], свободно говорит по-
Devuška, kotoruju my vstretili v biblioteke, cvobodno gborit po-
The girl who we met in the library speaks Russian fluently.

O matrix positions:

OS: Мы встретили девушку, [которая свободно говорит по-русски].
My vstretili devušku, kotoraja svobodno goborit po-russki.
We met the girl who speaks Russian fluently.

OO: Мы не знаем девушку, [которую мы встретили в библиотеке].
My ne znaem devušku, kotoruju my vstretili v biblioteke.
We do not know the girl, who we met in the library.

Some researchers claim that the O matrix position is easier than the S matrix
position. Kuno (1974) hypothesized that OS and OO relative clause types are easier to
acquire than SS and SO due to the limitations of human short-term memory. Other
studies reveal similar results. Schumann (1980) analyzed the data from five subjects in a
longitudinal ten-month study and the data from two subjects in a cross-sectional study.
Five Spanish subjects (aged from five to thirty-three) and two Italian subjects (aged 78
and 84) preferred OS (53%) and OO (35%) relative clauses over SS (6%) and SO (4%)
one (2% of the clauses could not be assigned to any one of the four types). Wong (1991)
collected data from 170 English compositions by Cantonese secondary school students. There was no elicitation to induce the production of relative clauses. The total of relative clauses produced was 140. Among correctly formed relative clauses the subjects produced OS (47%), OO (26%), SS (15%), and SO (10%). Izumi’s (2003) study also reveals results in favor of the O matrix position. The results of all three tests (a sentence combination production, grammaticality judgment, and interpretation tests) show that subjects performed better on the O matrix position than on the S matrix position. The difficulty order obtained on the test was as follows: OS > OO > OOPR > SS > SO > SOPR. The head nouns in the O matrix position were easiest to produce.

Sadighi (1994) tests the Interruption Hypothesis and suggests that a sentence with a noun phrase and a verb phrase separated by a relative clause is harder to comprehend and interpret than a sentence without such separation. Investigating right-branching English (L2) and the three left-branching languages, Chinese, Japanese, and Korean (L1), he suggests that there are universal factors that impact upon perception of sentence types. He calls attention to the fact that regardless of the essence of a native language either left-branching or right-branching the easiest type of sentences for these learners was the OS type yielding only 3.6% incorrect results and the most difficult type was SS yielding 42.8% incorrect results.

2. 4 Scaffolding in acquiring relative clauses

Many studies focus on an ungrammatical presence of a pronoun in relative clauses (*The girl who John kissed her. Pavesi, 1986, p. 53). Different researchers name this phenomenon differently. Some researchers define it as pronominal copy (Ellis, 1994), some as pronoun retention (Sadighi 1994), whereas some call it a resumptive pronoun
There is a claim that the properties of L1 impact upon either presence or absence of pronoun retention in the relative clause. Investigating Persian and Finnish learners learning Swedish (L2), Hyltenstam (1984) found that in their second language Persian learners retain pronouns in relative clauses but Finnish learners do not. He suggests that similarities and dissimilarities between the L1 and L2 play an essential role in this. The Persian language permits copying of pronouns in relative clauses, but Finnish does not. Based on this connection Hyltenstam (1984) concludes that L1 influences retention of pronoun in relative clauses.

However, two studies by Pavesi (1986) and by Tarallo and Myhill (1983) suggest that pronoun retention is a phenomenon of interlanguage syntax. Pavesi (1986) studied how Italian learners acquired English. In this case neither the L1 nor the L2 allowed pronoun retention. Nevertheless, Italian learners used both noun and pronoun retention in their L2 utterances. The conclusion she makes is that interlanguage syntax is an independent system.

A study of relative clause acquisition in five different L1 (Chinese, Japanese, Persian, German, and Portuguese) with different syntactic rules reveals a similar result (Tarallo & Myhill, 1983). Three languages of this study, Chinese, Japanese, and Persian are left-branching, and German and Portuguese are right-branching languages. Despite the fact that the three left-branching languages allow pronoun retention only in some instances and that both right-branching languages do not allow pronoun retention at all, all the learners include pronoun retention in their L2 relative clauses. This then cannot be assigned to interference with the learners’ L1 because English does not allow pronoun
retention either. Both studies suggest that learners of different languages follow similar routes in their acquisition of relative clauses.

Although these studies attribute the phenomenon of pronoun retention to different sources, either to L1 influence or to interlanguage syntax, all of them are agreed on the reason learners utilize pronoun retention. Hyltanstam (1984) claims that learners use pronoun retention more often in more marked clauses. Tarallo and Myhill (1983) find that learners use pronoun retention when “the relativization site is farther from the head” (p. 71), which may be considered as marked also. Pavesi (1986) reports that tutored learners use pronoun retention in more instances than untutored learners, who more often use noun retention. Crucially, it is possible that for untutored learners utilizing pronouns might be more difficult than using nouns. It is quite conceivable that the phenomenon of pronoun retention serves a scaffolding role in processing a language.

2. 5 Effect of instruction on relative clause acquisition

The AH claims that learners acquire unmarked features before marked ones. Thus, S which is in the highest position is more susceptible to relativization than OCOM which is in the lowest position. In other words, an unmarked feature is the more basic and carries less information; whereas a marked feature is less basic and carries more information.

Some researchers view the AH from the point of view of learnability. They suggest that the learners are able to make generalizations about unmarked or less marked relative clause positions after they receive instruction on marked relative clause positions. Gass (1982) conducted her study comparing two groups of ESL learners from a variety of language backgrounds (Arabic, Farsi, Italian, Russian, Spanish, and Japanese).
She used two types of tests, a combination test and grammaticality judgment test, and instructed subjects on formation of relative clauses for three sequential days. (It is unknown how much time each instruction lasted.) One group (five subjects) was instructed on S, DO, and IDO positions and another group (thirteen subjects) was instructed only on the OPR position. The results showed that after instruction the former group performed well only on S, DO, and IDO positions; whereas the latter group performed well not only on the instructed position, but also on the non-instructed less marked S, DO, and IDO positions.

Eckman, Bell, and Nelson (1988) replicated and extended the findings of Gass’ (1982) study. As in Gass’ study, this study also investigated the generalization of relative clauses in English and proposed the Markedness Differential Hypothesis (MDH), which suggested the influence of the native language (NL) on the target language (TL) (Eckman et al., 1988). The MDH predicts that least marked aspects of the TL relative to a learner’s NL will be easier to learn and vise versa. More importantly, the MDH suggests that the most marked aspects of the TL provide for a learner to gain maximal generalization of learning. This study used four groups, to which the subjects were randomly assigned: three experimental and one control. Each experimental group received instruction just on one RC type: either on the S position, or on the DO position, or on the OPR position. The control group was not instructed in RC and was given a lesson on an unrelated aspect of grammar. Although the number of subjects in this study was twice as in Gass’ (1982) study, the number of participants in each group, because of forming four groups, was small (nine for each group). To test the participants’ productivity of RC these researchers used a combination test. One hour instruction was focused on relative clause formation.
and was controlled so that the students were instructed only on an assigned relative clause type.

Although Eckman et al. (1988) agree that the location of the head noun is an important aspect of a complex sentence, in both pretest and posttest they did not vary the head noun matrix position. All of the provided items were structured to produce relative clauses in the object matrix position. In other words, the head noun which is modified by the RC functioned as a direct object of the main clause in all items of the tests.

The study of Eckman et al. (1988), as does Gass’ (1982) study, suggests that learners are able to make generalizations of learning and, more importantly, these generalizations are unidirectional and proceed from more marked structures to less marked structures.

Doughty (1991) tested learnability of the relativization system from a different angle. In her study all three groups (the total of the ESL learners was twenty) received instruction on the same relative clause type, OPR. There the question of which type of instruction was used became crucial. All three groups completed computer-assisted readings. They read the same reading materials and were asked to complete the same pre-reading and post-reading tasks. However, the means to complete the task were different for each group. A control group was asked to complete all readings and all pre- and post-reading tasks. The two experimental groups were provided with additional instructional materials. One experimental group or “rule-oriented instructional group” was provided with an Animated Grammar program through which the subjects received explicit rule explanations and viewed on-screen sentence animated manipulation. Another experimental group or “meaning-oriented instructional group” was provided with a
lexical instructional technique through use of a dictionary and the semantic technique through specific explanations to clarify the content of the sentence. The length of instruction was ten days. It was surprising that all three groups showed highly significant improvement in effect of instruction with greater effect in the two experimental groups.

Hamilton (1994) reexamines previous research some of which were conducted by Gass (1982), Eckman et al. (1988) and Doughty (1991). He questions unidirectional\textsuperscript{11} and maximal\textsuperscript{12} nature of generalization:

“…whereas the unidirectionality prediction delimits the set of possible targets of IG [Implicational Generalization], the maximality prediction states that every possible target is a necessary target.” (pg. 125)

Hamilton (1994) suggests that the evidence for unidirectionality and maximality is inconclusive. To prove his point he demonstrates that some of the participants in Gass’ (1982) and Doughty’s (1991) research in addition to gaining the instructed and less marked RC types, in some instances gained a more marked type like GEN. Noticeable features of GEN might have caused an unexpected high score on this type. These are unique case coding and concurrence with a possessed NP (Hamilton, 1994). More interestingly, he investigated that in the study of Eckman et al. (1988) the S instructed group improved on the more marked DO position. Although this gain was less than that in the experimental groups, he argues that that was an effect of instruction.

Hamilton’s (1994) original data tests four different types of relativization: OS, OO, SS, and SO (presented in order of difficulty) or the SO Hierarchy. In this study thirty-three ESL learners formed four groups (the SO group, the SS group, the OS group,

\textsuperscript{11} Generalization embraces the distance between the instructed position and the most unmarked S position. 
\textsuperscript{12} Acquisition occurs on the instructed position and every other position in hierarchy as a possible target for generalization.
and a control group\textsuperscript{13}) and were instructed for forty-five minutes on each of two sequential days. The pretest and the posttest were a sentence combination task. Although the general pattern of generalization was indeed unidirectional, data analyses for each participant showed that some of them acquired more than one of the RC types that were lower in the hierarchy. For example, after instruction the OS group gained not only in the instructional type, but in OO, SS, and SO types. Thus, reevaluating data from previous studies and examining his own empirical data, Hamilton (1994) argues for ambiguity of unidirectional generalization.

In fact, data analyses for each learner in Doughty (1991) and Hamilton’s study showed that each new RC position was acquired in “a strictly cumulative fashion” (Hamilton, 1994, p. 142). In other words, generalization was built on the learner’s knowledge in a growing manner without skipping of positions regardless of the instructed position. He argues that learners do not necessarily acquire the instructed position and all other less marked positions. Rather the learners’ acquisition is cumulative. After instruction the learners may acquire one, two, three, or even four positions in any direction starting with that which was acquired on the pretest.

Hamilton (1994) claims that two aspects of relativization make this possible. They are (a) the basic syntactic and morphological operations that all types of RC share and (b) levels of structural complexity (Hamilton, 1994, p. 145). Among the basic syntactic operations are replacement of the NP with a relative pronoun, movement of the RC to the position after the main clause (if necessary), and movement of the relative pronoun\textsuperscript{14} to a

\textsuperscript{13} There was no OO group because OO and SS share a single level of the SO Hierarchy (Hamilton, 1994, p. 134).

\textsuperscript{14} In more marked types, a preposition (OPR) or a possessor (GEN) preceding the relative pronoun forms a unit.
clause-initial position. Among the basic morphological operations is preservation of a case in the relative pronoun (Doughty, 1991). Doughty (1991) suggests that these basic syntactic and morphological operations make all RC positions similar and, therefore, may cause generalization in more marked RC positions as well as in unmarked. If the learner masters the basic operations for a given RC, it is easy to transfer that knowledge to other RC positions (Hamilton, 1994).

The other aspect of relativization, structural complexity, provides “a necessary condition for a cumulative constraint” (Hamilton, 1994, p. 148). The nature of this aspect preserves the AH phenomena where one RC position includes all of the structural elements of the other less marked positions (Eckman et al.; 1988). To summarize, the basic syntactic and morphological operations support generalization of structures in both ways from the instructed level and the structural complexity with its gradual increasing of degree of difficulty makes generalization cumulative.

Ammar and Lightbown (2005) report findings regarding generalization by Arabic postsecondary students learning English as a foreign language. In their study they focused only on one type of error, pronoun retention because the two languages differ in regard to this phenomenon. The Arabic language permits pronoun retention in all positions except S, whereas English does not permit it at all. In this study there were four groups, three of which received instruction on RC types and a control group which did not. The three experimental groups were the DO group receiving instruction on the DO type, the ORP group receiving instruction on the OPR type, and the SDO group receiving instruction on the S, DO, and OPR types. The researchers emphasized the importance of the DO group because it allowed them to test bidirectionality of the AH because in this
group the subjects had four choices of more marked RC types: IO, OPR, GEN, and COMP.

The study of Ammar and Lightbown (2005) supports the finding that instruction facilitates learners’ performance of relative clauses. All the experimental groups did significantly better than the control group. Furthermore, all the experimental groups made significant improvement on all RC types except GEN. This study is one of the few tested long-term effects of instruction. There were two posttests, one was on the day following instruction day and the other was two weeks after the first posttest. The second posttest showed that the subjects of the three experimental groups not only maintained their relativization knowledge, but also increased it after the first posttest.

As suggested by Ammar and Lightbown (2005), learners are able to make generalization in both directions. For example, in the DO group, three out of seven subjects improved on all RC types except GEN and the remaining subjects improved at least on one more marked relative clause type. To come to this conclusion, the researchers analyzed the performance of individual subjects using an implicational scale. However, they did not analyze the subjects’ production (CT) and recognition (GJT) separately, but rather they combined the scores of the two tests together. Perhaps separate analyses of the two tests would reveal a different result.

There is a handful of studies concerning the AH and its learnability in languages other than English. Croteau (1995) examined affect of instruction amongst American students learning Italian as a second language and found a significant main effect of instruction. In this study, the researcher combined classroom instructions and homework packets different for the three groups of subjects. The groups focused on either DO, or
OPR, or GEN. The researcher states that the subjects improved the most in the type on which they were instructed.

Croteau (1995) underlines the unidirectionality of the AH. Thus, the subjects, who were instructed in the DO type, made generalization about the S type and the subjects, who were instructed in the OPR type, made generalization about the DO type. Nevertheless, the subjects who received instruction in the GEN type made no generalization about less marked RC types. In Croteau’s opinion, it may be caused by the GEN type structure in the Italian language. “Italian GEN does not resemble English relativization of the GEN at all” (Croteau, 1995, p. 118). In Italian GEN a definite article precedes the pronoun. Although Croteau (1995) is in favor of unidirectionality, the presented data shows that the groups improved not only in less marked RC types, but only in the more marked RC types: the DO group slightly improved in the OPR type and the OPR group slightly improved the GEN type.

Studies in Asian languages revealed similar results. Yabuki-Soh (2007) examined the Japanese language and indicated that the type of instruction plays an effective role in L2 acquisition. The procedure in this study was similar to that in Doughty’s (1991). Three groups, the form oriented, the meaning oriented, and the form plus meaning oriented groups were instructed on OPR. The subjects made progress on all relativization types including GEN. Again, although the improvement in the GEN type was not significant as in the less marked types, it still occurred.

In summary, the results from the previous studies indicate that learners benefit from instruction on the marked types of RCs and are able to generalize that learning. Some researchers agree that learners make generalizations unidirectionally to the
unmarked RC types; whereas some question unidirectness of generalization. Many researchers in the review mention that some learners were able to make generalization to the more marked RC types.

The present study attempts to investigate the impact of instruction upon the acquisition of the Russian relative clauses and analyze whether learners of the Russian language benefit from instruction on marked or unmarked relative clause types.
Chapter Three: METHOD

The purpose of this study was to discover whether the method of second language instruction affects the acquisition of relative clauses with the relative pronoun *kotoryj*. To accomplish this task, a comparison based on a pretest and a posttest of two groups receiving different types of instruction was made.

3.1 Pilot Study

3.1.1 Subjects

A pilot study was carried out ten months before the final research was conducted to provide initial feedback on the level of participant proficiency and on the test items. The pilot study was conducted with two sections of a level two (second year) Russian language course. It occurred at the same university as the final study and included twenty-nine subjects who were volunteers. The subjects who participated in the pilot study were not included in the final data collection process. The pilot study showed that some of the subjects at this level had quite high competence in the Russian relativization system. For the concluding study, the researcher decided to broaden the range of subjects by adding subjects from a level one (first year) Russian language course.

3.1.2 Instruments

The pilot study highlighted some flaws in both the test instructions and the test items. The pilot combination test (CT) showed that despite the instructions some subjects made the second sentence in a given pair the main clause. As a result, those subjects did not produce target structures and their sentences were not included for analyses. To avoid the problem in the concluding experiment, instructions for the test and the test itself were revised. On the test handouts the subjects were provided with the first word for each of
the sentences they were asked to create, and these changes were reflected in the instructions (Appendix 2).

The pilot grammaticality judgment test (GJT) was also revised. Because the instructions did not indicate that a given sentence could be correct, the subjects looked for errors in each sentence. The concluding experiment instructions were revised. First, the subjects were asked to indicate whether the sentence was correct or incorrect by writing down the letter “C” for correct sentences and the letter “I” for incorrect sentences in front of each sentence. Second, the instructions for the concluding experiment stated that “Each sentence has, at most, one mistake” indicating that some of the sentences may have none.

3.2 Concluding Study

3.2.1 Subjects

Subjects were students of the Russian language at Brigham Young University. All subjects who participated in the study were volunteers and were not randomly selected or assigned to each group. There were two intact groups each of which included one section from a level one and one section from a level two Russian language course, with a total of fifty-four students: 27 male, 27 female. These students were targeted as participants for the study because they were second and fourth semester students.

The researcher was a co-teacher in one of the classes selected for the experiment. The subjects were all informed in advance about the experiment. Prior to the experiment the subjects gave informed consent and filled out questionnaires about their background information (Appendix 1). Group 1 (Table 3.1) included sixteen subjects from one section of level one and sixteen subjects from one section of level two. Group 2 included
six subjects from another section of level one and sixteen subjects from another section of level two.

Table 3.1: The Number of Subjects in Each Group

<table>
<thead>
<tr>
<th>Group 1</th>
<th>Group 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Russian 102, 1</td>
<td>Russian 102, 2</td>
</tr>
<tr>
<td>16 subjects</td>
<td>16 subjects</td>
</tr>
<tr>
<td>Russian 202, 1</td>
<td>Russian 202, 2</td>
</tr>
<tr>
<td>6 subjects</td>
<td>16 subjects</td>
</tr>
</tbody>
</table>

Almost all participants were native speakers of English (n=52), one was a native speaker of Spanish, and one was a native speaker of Bulgarian.

The mean age of the subjects was 23.2 years; the oldest was 49.11 years old and the youngest was 17.11 years old. The mean age of the subjects in group 1 was 21.9 years; the oldest was 32.7 years old and the youngest was 17.11 year old. The mean age of the subjects in group 2 was 24.6 years; the oldest was 49.11 years old and the youngest was 18.7 years old (Table 3.2).

Table 3.2: The Average Age of the Subjects

<table>
<thead>
<tr>
<th>All groups</th>
<th>Group 1</th>
<th>Group 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>23.2</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Russian 102, 1</th>
<th>Russian 102, 2</th>
<th>Russian 202, 1</th>
<th>Russian 202, 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>21.9</td>
<td>24.6</td>
<td>21.8</td>
<td>23.1</td>
</tr>
<tr>
<td>22.0</td>
<td>26.0</td>
<td>23.1</td>
<td>22.0</td>
<td>23.1</td>
</tr>
</tbody>
</table>

27
Many participants reported that they had studied foreign languages other than Russian. Twenty-eight participants reported that they studied one other foreign language other than Russian (Spanish – 12, French – 5, Ukrainian – 3, German – 2, Estonian – 2, Bulgarian – 1, Romanian – 1, Serbo-Croatian – 1, Chuukeese – 1). Twelve subjects reported that they had studied two other foreign languages other than Russian. Most of them had studied Spanish and one of the following: either German (1), Italian (1), French (2), Japanese (1), Korean (1), Catalan (1), or Croatian (1). Two had studied French and either Latin or Bulgarian, and two had studied German and either French or Czech. Two subjects reported that they had studied three other foreign languages other than Russian, and four subjects reported that they had studied four other foreign languages other than Russian. Some participants reported out-of-class opportunities to speak Russian. Ten subjects had had exposure to the Russian language in previous years. Nine subjects lived in Russia or other Russian-speaking countries from four months to three years. One subject lived for one month in the BYU Foreign Language Student Residence.

3.2.2 Instruments and Procedures

This experiment used pretest and posttest measurements. Both the pretest and the posttest consisted of two different tasks, a sentence combination test (CT) and a grammaticality judgment test (GJT). Both tests were designed by the researcher, a native speaker of Russian. The instruments were tested at the University of Utah. Nine subjects of a level two Russian course participated in testing. The testing lasted one hour. The pretest CT was distributed to five subjects and posttest CT was distributed to four subjects. After the subjects completed the CT, the results were collected and the pretest
GJT was distributed. Reliability of the tests using Cronbach Alpha measurement was as follows:

<table>
<thead>
<tr>
<th>Table 3.3: Reliability Coefficient Measured by Cronbach Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Combination Test</strong></td>
</tr>
<tr>
<td>Pretest</td>
</tr>
<tr>
<td>Posttest</td>
</tr>
</tbody>
</table>

As we can see, a reliability coefficient for the CT was $r = 0.70$ (or 30% was accounted for error) and $r = 0.81$ (or 29% was accounted for error) on the pretest and posttest respectively, and for the GJT (pretest) it was $r = 0.90$ (or 10% was accounted for error).

3.2.2.1 Structure of Combination Test

The CT had twenty items, each of which consisted of two simple sentences (Appendix 2). The subjects were asked to combine two given sentences using the relative pronoun *kotoryj*. The CT had four items of each type of relativization: S, DO, IDO, OPR, and GEN which were distributed throughout the test randomly. All the CT items were created according to number and gender. There were five items for each gender (masculine, feminine, and neuter) and five items for plural. Also, items were aimed to create sentences within one of the two matrix positions (Table 3.4): the subject matrix position (with relative clause embedded into the main clause) and the object matrix position (with relative clause attached to the main clause). There were ten sentences within the subject matrix position and ten sentences within the object matrix position.

Table 3.4: Subject and Object Matrix Positions on CT
The subjects were instructed to combine sentences using proper forms of the relative pronoun kotoryj. They were instructed to start with the first sentence in each case and without omitting any of the information contained in either of the two sentences, specify or modify the underlined word(s) in the first sentence using the relative pronoun kotoryj. The subjects were given twenty minutes to complete this test.

The subjects were provided with written instructions on the test handouts and were asked to listen to an oral presentation of the instructions by a native speaker of English. After the subjects listened to the instructions, the researcher wrote an example on the board, which was erased before the test began.

3.2.2.2 Scoring of Combination Test

To analyze the CT a scoring rubric was developed (Appendix 4). The researcher was interested in what kinds of errors the subjects made. There were three possible types of errors the subjects could make: an error in adjacency, an error in the ending used for the relative pronoun, or an error in repeating either the modified noun or its pronoun within the relative clause (in other words, pronoun retention)\(^{15}\). One point was given for correct adjacency, one point for correct relative pronoun ending, and one point for

---

\(^{15}\) Студенты, которым мы принесли *студентам письмо, уехали в Москву. (CT, pretest, item # 19).
absence of pronoun retention. If a subject did not start with the first of the two given sentences and, therefore, did not produce a target relative clause, then no points were given for adjacency and the pronoun ending. However, one exception was made for sentence # 4 in the pretest and for sentence # 3 in the posttest. The aim of both items was to form sentences with a relative pronoun in the S position. Creating a sentence with incorrect adjacency, where the subjects used the second sentence as the main clause instead of using the first one for this purpose, did not affect the pronoun ending. In this instance, the subjects were given no point for adjacency and one point for the proper ending.

In the OPR and GEN relative clause types, some subjects used stranding structure instead of pied-piping structure, placing the relative pronoun kotoryj directly at the beginning of the relative clause\textsuperscript{16} and moving a preposition (for OPR) or a possessor (GEN) either to the end of the clause or after the relative pronoun. In the pilot study this type of error was included in adjacency error type. In the concluding study this type of error was treated separately. An additional point was given for each of these sentences with pied-piping structure or correct internal adjacency. This means that to receive a point in the OPR type the preposition must precede the relative pronoun and in the GEN type the noun-possessor must precede the relative pronoun.

Analysis of the pilot study indicated that some subjects produced soft endings for relative pronouns instead of hard. While this is clearly a mistake, this study was concerned with the acquisition of the relativization system, not the acquisition of soft and hard consonants. Based on this, relative pronouns with soft endings were accepted as

\textsuperscript{16} Родители, которые студенты получили письмо *от, живут в другом городе. (CT, posttest, item # 13).
correct answers. Thus, answers with “е” instead of “о” and with “н” instead of “ы” in the endings of relative pronouns were accepted. In addition, answers with который instead of которого were also accepted for similar reasons. (For more details see Appendix # 4.)

3.2.2.3 Structure of Grammaticality Judgment Test

The GJT consisted of forty sentences (Appendix 3). Thirty of the GJT sentences were divided according to the types of error. Ten sentences had errors of nonadjacency, ten sentences had the incorrect ending in the relative pronoun, and ten sentences had errors of pronoun retention. In addition to these thirty incorrect sentences, there were ten correct sentences. Each of these four groups had two sentences of each type of relativization: S, DO,IDO, OPR, and GEN. In two sentences of each type, one sentence was in subject matrix position and one was in object matrix position (Table 3.5).

Table 3.5: Examples of Subject and Object Matrix Positions on GJT

<table>
<thead>
<tr>
<th>Subject matrix position</th>
<th>Object matrix position</th>
<th>Pretest # 27</th>
<th>Pretest # 39</th>
</tr>
</thead>
<tbody>
<tr>
<td>Парень, который говорит по телефону, работает в банке.</td>
<td>Мой друг купил мне одеяло, которое лежит на моей кровати.</td>
<td>Pretest # 27</td>
<td>Pretest # 39</td>
</tr>
</tbody>
</table>

The GJT sentences were divided according to number and gender. There were ten sentences of each gender (masculine, feminine, and neuter) and ten sentences with plural agreement. The sentences were presented in random order.

For this test the subjects were asked to make their grammaticality judgment about each sentence while reading the test and listening to its oral presentation with a fifteen second pause after each sentence. A compact disc of the test items was recorded in a
recording studio in BYU by a female native speaker of Russian at natural speaking rate and intonation.

Before administering the pretest and posttest of this type the subjects were given instructions both written and orally by a native speaker of English. The CT was collected before the GJT was distributed.

3.2.2.4 Scoring of Grammaticality Judgment Test

To analyze the GJT a scoring rubric was developed (Appendix 5). For each type of incorrect sentences only a targeted type of error was considered. All others were disregarded. For example, in a sentence targeted for adjacency error, if a subject made changes to a relative pronoun ending or changes to any other words, those corrections were ignored. The subjects were given one point for correcting a targeted error. Thus, the possible score for each type of error was ten.

3.2.2.5 Treatment

During the three days following the pretest both groups received instruction on relative clauses. Each of two groups received a different type of instruction and they were named the basic treatment group (BG) and the complex treatment group (CG) based on the instruction type.

The BG received instruction on less marked relative clause positions S, DO, and IDO. In the Russian language, each of these relative clause positions requires a relative pronoun only in specific cases: the nominative case for the S position, the accusative case for the DO position, and the dative case for the IDO position\(^{17}\). During instruction, the

\(^{17}\) S: Студенты, которые [Nom] учатся на нашем курсе, любят русскую историю. (CT, pretest, item # 4). DO: Мой друг читает книгу, которую [Acc] я читал раньше. (CT, pretest, item # 6). IO: Мой брат
subjects of the BG encountered difficulties in identifying what roles (S, DO, or IDO) relative pronouns played in particular relative clauses and in applying correct morphological endings for different genders or numbers to the relative pronouns.

The CG received instruction only on a more marked relative clause position, the OPR position in particular. The OPR position was chosen over the GEN position because of its unique features. In this position, a relative pronoun may be used for five out of the six Russian cases, excluding only the nominative case, which cannot have a preposition; whereas, a relative pronoun in the GEN position may be used only with the genitive case. The subjects of the CG encountered difficulties in identifying the role of the relative pronoun in the sentence and in applying correct morphological endings to the relative pronoun. Another problem was in identifying which case a particular preposition governed. Some prepositions, like к, govern only one case, so the task is not overly complicated. However, the complexity of the task increases when the preposition is used with more than one case (the prepositions в and на). As a result, incorrectly identifying the case of a relative pronoun based on the preposition leads to a flawed decision on the role of the relative pronoun and its morphological ending.

Besides these particularities, both the OPR and GEN types differ from the three preceding unmarked types in structure. In each of these two types the relative clause does not directly start with the relative pronoun, but starts either with a preposition in the OPR type or with a noun-possessor in the GEN type. In both cases, the preceding element, together with a relative pronoun, forms a unit. Applying a correct structural order is another difficulty in producing relative clauses of these types.

---

знает мальчика, которому [Dat] я читаю книгу. (CT, pretest, item # 14).
The researcher anticipated that the range of the cases in the OPR position together with number and gender differences would allow the participants to make generalizations about the three other less marked positions, S, DO and IDO. Given these considerations, the OPR position was a less accessible possible position which could be successfully employed to answer the research question.

Instruction (Appendix 6) was given to both groups during class for three sequential days. Each day the instruction lasted about twenty-five minutes. The instruction and exercises for both groups were created by the researcher and were different only in grammatical structures. They were similar in format.

Before the actual teaching of different relative clause types, both groups received an overview of relative clauses. The participants were familiarized with all of the five types of relative clauses (Appendix 6, page 1). Based on experience from the pilot study the researcher wanted to avoid generalizations not desired. After the pilot study instruction some of the control group subjects placed the relative pronoun in front of all types of relative clauses including the OPR and GEN positions. This time both groups received an overview on all relative clause types. Thus, before the instruction began the subjects of both groups were familiarized with all relative clause types presented on the tests.

In the BG, the first day of instruction was on the S, DO, and IDO types in the object matrix position. On the same day, the CG received instruction on the OPR type in the genitive case with the propositions от and для, the prepositional case with the prepositions о and в, the accusative case with the preposition в, and the dative case with the preposition к. The instrumental case was not included in the study because the
subjects in first level Russian were not familiar with this case. In this group, all relative clause types were in the object matrix position. The researcher began instruction with the object matrix position because its acquisition is easier than that of the subject matrix position (Kuno, 1974; Schumann, 1980; Wong, 1991; Hamilton, 1994). The main emphasis during the first day was on morphological endings of the relative pronouns.

On the next day both groups received instruction on the same types as on the preceding day but this time in the subject matrix position. Thus, on the second day the focus was not only on the morphological endings of the relative pronouns but on adjacency, as well. The subjects were instructed that when the relative clause modifies the subject of the main clause, it has to be inserted into the main clause directly after the modified noun.

On the last day of instruction the subjects practiced all RC types in which they received instructions. The subjects did not receive much instruction on adjacency and pronoun or noun retention. Attention was given to these types of errors only when they were made.

Three days after the completion of instruction a posttest was administered to both groups. The posttest was similar in format to the pretest. The procedures and format were the same, only lexical items for CT and GJT were different.
Chapter Four: RESULTS AND DISCUSSION

To discover whether the method of second language instruction affects the acquisition of relative clauses the data were collected and analyzed. The results showed no direct significant effect of the type of instruction in both CT and GJT. However, data analyses showed some other interesting results which will be disclosed below.

4.1 Data recording procedure

After the experiment was completed the results of the pretests and posttests were analyzed by the researcher and another rater, a native speaker of Russian with a Master’s degree in linguistics from the Pedagogical University of Voronezh. The rubric created for scoring the data can be found in Appendix 4.

4.2 Statistical Procedure

A maximum likelihood analysis of variance (ANOVA) was calculated to compare the relativization ability of the two groups. The analysis of variance and other following statistical analyses were performed in collaboration with the BYU Department of Statistics. The study was a 2 x 2 x 5 x 3 mixed design with the pretest covariate. The test variables consisted of two groups (basic and complex), two matrix positions (subject and object), five relative clause types (S, DO, IDO, OPR, and GEN) and three types of errors (nonadjacency, incorrect morphological ending, and pronoun retention).

4.3 Results

In the CT, one subject scored 100% on both tests and one subject did only half of the pretest and the posttest. The scores of these subjects were excluded from analysis.

The results from the analysis of variance showed no significant difference in
effect of treatment between the two groups, the BG and the CG, and the BG performed slightly better than the CG; however, each group gained significantly. The BG gained 20.37% (F (1, 50) = 9.21, \( p < .0001 \)) and the CG gained 18.14% (F (1, 50) = 9.96, \( p < .0001 \)).

The results from the analysis of variance revealed four significant effects. There were effects in matrix position, relative clause type, error type, and two-way interaction effect: relative clause type and error type (Table 4.1). The means and standard deviations for all factors are reported in Table 4.2.

Table 4.1: ANOVA for Combination Test

<table>
<thead>
<tr>
<th>Effect</th>
<th>Num DF</th>
<th>Den DF</th>
<th>F Value</th>
<th>Pr &gt; F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest</td>
<td>1</td>
<td>1186</td>
<td>1977.88</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Treatment (T)</td>
<td>1</td>
<td>50</td>
<td>0.60</td>
<td>0.4405</td>
</tr>
<tr>
<td>Matrix Position (MP)</td>
<td>1</td>
<td>1186</td>
<td>7.29</td>
<td>0.0070</td>
</tr>
<tr>
<td>T * MP</td>
<td>1</td>
<td>1186</td>
<td>0.16</td>
<td>0.6868</td>
</tr>
<tr>
<td>RC type (RCT)</td>
<td>4</td>
<td>204</td>
<td>4.47</td>
<td>0.0018</td>
</tr>
<tr>
<td>Error type (ET)</td>
<td>2</td>
<td>102</td>
<td>42.97</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>RCT * ET</td>
<td>8</td>
<td>1186</td>
<td>4.75</td>
<td>&lt;.0001</td>
</tr>
</tbody>
</table>

The GJT analyzed three different error types: errors of nonadjacency of the head noun and the relative pronoun, errors of incorrect relative clause morphological ending, and errors of pronoun retention. In addition, correct sentences included in the tests were taken into consideration.

In the GJT, six subjects identified morphological errors but did not correct them. Therefore, there was no way to score their results on this type of error. The scores of
Table 4.2: Means and Standard Deviations for CT

**Pretest**

<table>
<thead>
<tr>
<th>Group Name</th>
<th>S</th>
<th>DO</th>
<th>IDO</th>
<th>OPR</th>
<th>GEN</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>M</td>
<td>SD</td>
<td>N</td>
<td>M</td>
</tr>
<tr>
<td>Basic</td>
<td>63</td>
<td>.766</td>
<td>.249</td>
<td>63</td>
<td>.698</td>
</tr>
<tr>
<td>Complex</td>
<td>93</td>
<td>.737</td>
<td>.284</td>
<td>93</td>
<td>.699</td>
</tr>
</tbody>
</table>

| Basic      | 84    | .616  | .363  | 84    | .494  | .411  |
| Complex    | 124   | .506  | .404  |

**Posttest**

<table>
<thead>
<tr>
<th>Group Name</th>
<th>S</th>
<th>DO</th>
<th>IDO</th>
<th>OPR</th>
<th>GEN</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>M</td>
<td>SD</td>
<td>N</td>
<td>M</td>
</tr>
<tr>
<td>Basic</td>
<td>63</td>
<td>.909</td>
<td>.187</td>
<td>63</td>
<td>.893</td>
</tr>
<tr>
<td>Complex</td>
<td>93</td>
<td>.866</td>
<td>.249</td>
<td>93</td>
<td>.874</td>
</tr>
</tbody>
</table>

| Basic      | 84    | .839  | .262  | 84    | .690  | .397  |
| Complex    | 124   | .730  | .377  |

---

18 The number of S, DO, and IDO differs from that of OPR and GEN in both groups because N of S, DO, and IDO equals the number of subjects multiplied by 3 (three types of error: adjacency, morphological marker, and pronoun retention) and N of OPR and GEN equals the number of subjects multiplied by 4 (three types of error plus pied-piping error).
these subjects were excluded from analysis.

The results from the analysis of variance showed no significant difference in effect of treatment between the two groups, and the CG performed slightly better than the BG. The BG gained 15.48% ($F_{(1, 46)} = 2.89, p = .0058$) and the CG gained 17.99% ($F_{(1, 46)} = 3.97, p = .0002$).

The results from the analysis of variance revealed five significant effects. There was an effect of matrix position, relative clause type, error type, and two two-way interaction effects: treatment and error type and relative clause type and error type (Table 4.3). The means and standard deviations for all factors are reported in Table 4.4.

Table 4.3: ANOVA for Grammaticality Judgment Test

<table>
<thead>
<tr>
<th>Effect</th>
<th>Num DF</th>
<th>Den DF</th>
<th>F Value</th>
<th>Pr &gt; F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest</td>
<td>1</td>
<td>1093</td>
<td>897.94</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Treatment (T)</td>
<td>1</td>
<td>46</td>
<td>0.13</td>
<td>0.7222</td>
</tr>
<tr>
<td>Matrix Position (MP)</td>
<td>1</td>
<td>1093</td>
<td>24.91</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>T * MP</td>
<td>1</td>
<td>1093</td>
<td>0.24</td>
<td>0.6228</td>
</tr>
<tr>
<td>RC type (RCT)</td>
<td>4</td>
<td>188</td>
<td>4.80</td>
<td>0.0010</td>
</tr>
<tr>
<td>Error type (ET)</td>
<td>2</td>
<td>92</td>
<td>12.88</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>T * ET</td>
<td>2</td>
<td>92</td>
<td>5.86</td>
<td>0.0040</td>
</tr>
<tr>
<td>RCT * ET</td>
<td>8</td>
<td>1093</td>
<td>5.09</td>
<td>&lt;.0001</td>
</tr>
</tbody>
</table>

Table 4.4: Means and Standard Deviations for GJT

<table>
<thead>
<tr>
<th>Group Name</th>
<th>N</th>
<th>S</th>
<th>DO</th>
<th>IDO</th>
<th>OPR</th>
<th>GEN</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Basic</td>
<td>80</td>
<td>.600</td>
<td>.439</td>
<td>.506</td>
<td>.432</td>
<td>.456</td>
</tr>
<tr>
<td>Complex</td>
<td>112</td>
<td>.598</td>
<td>.449</td>
<td>.549</td>
<td>.419</td>
<td>.460</td>
</tr>
</tbody>
</table>
4.3.1 Pretest factor and matrix position

In the CT, a significant effect of pretest factor ($F(1, 1186) = 1977.88, p < .0001$) indicates that the subjects who scored higher on the pretest tended to have lower gain on the posttest. A significant effect of matrix position type ($F(1, 1186) = 7.29, p = 0.0070$) indicates that the matrix positions differ significantly with subjects performing better in the object matrix position (Figure 4.1). Both groups gained an average of 20.79% in the object matrix position and 17.71% in the subject matrix position.

Figure 4.1: Gains on CT by Matrix Position Type

Although there was no significant difference in gains by matrix position between the groups, the BG slightly outperformed the CG.
In the GJT, there was a significant effect of pretest factor \((F (1, 1093) = 897.94, p < .0001)\) indicating that the subjects who scored higher on the pretest tended to have lower gain on the posttest. A significant effect of matrix position type \((F (1, 1093) = 24.91, p < .0001)\) indicates that the matrix positions differ significantly with subjects performing better in the subject position (Figure 4.3). Both groups gained an average of 11.79% in the object matrix position and 21.69% in the subject matrix position.

Although there was no significant difference in gains by matrix position between the groups, both groups gained significantly with the CG slightly outperforming the BG (Figure 4.4).
4.3.2 Relative clause type

In CT, a significant effect of relative clause type (F(4, 204) = 4.47, p < 0.0018) indicates that the relative clause types differ significantly with subjects performing in the S, DO, IDO, and OPR positions better than in the GEN position (Figure 4.5). Overall the two groups gained significantly on each of the types.

Although there was no significant effect of relative clause type between the two groups, the following figure (Figure 4.6) shows that each group performed slightly better on instructed type(s) and made a quite equal gain on the most marked GEN type.
In GJT, a significant effect of relative clause type \((F (4, 188) = 4.80, p < 0.0010)\) indicates that the relative clause types differ significantly with subjects performing better in the S position \((F (4, 188) = 5.86, p < 0.0001)\), the OPR position \((F (4, 188) = 4.66, p < 0.0001)\), and in the DO position \((F (4, 188) = 3.95, p = 0.0001)\) than in the IDO position \((F (4, 188) = 3.74, p = 0.0002)\) and in the GEN position \((F (4, 188) = 2.67, p = 0.0082)\). Overall the two groups gained significantly on each of the types (Figure 4.7).

Although there was significant effect of relative clause types between the groups, Figure 4.8 shows that the BG slightly outperformed the CG in S, DO, and OPR and the CG outperformed the BG in IDO and GEN.
4.3.3 Error type

In CT, a significant effect of error type ($F (2, 102) = 42.97, p < .0001$) indicates that the error types differ significantly with subjects making more gains on the adjacency and pronoun retention error types (Figure 4.9). Overall the two groups gained significantly: 25.55% on adjacency ($F (2, 102) = 12.14, p < .0001$), 4.63% on morphology ($F (2, 102) = 2.17, p < .0323$), and 27.58% on pronoun retention ($F (2, 102) = 12.90, p < .0001$).

In GJT, a significant effect of error type ($F (2, 92) = 12.88, p < .0001$) indicates that the error types differ significantly with subjects performing better on pronoun retention ($F (2, 92) = 6.62, p < .0001$) and morphology ($F (2, 92) = 3.56, p = .0006$) than
on adjacency (F (2, 92) = 1.67, p = .0986) (Figure 4.10).

Figure 4.10: Gains on GJT by Error Type

![Figure 4.10: Gains on GJT by Error Type](image)

4.3.4 Interactions

In CT, a significant interaction effect of relative clause type and error type (F (8, 1186) = 4.75, p < .0001) indicates that the effect of relative clause type was moderated by that of error type (Figure 4.11). The performance of all relative clause types was much better in the adjacency and pronoun retention error types than in the morphological ending error type.

Figure 4.11: Interactions between Relative Clause Type and Error Type on CT

![Figure 4.11: Interactions between Relative Clause Type and Error Type on CT](image)

In GJT, a significant interaction effect of relative clause type and error type (F (8, 1093) = 5.09, p < .0001) indicates that the effect of relative clause type was moderated by
that of error type (Figure 4.12). The relative clause types differ significantly with subjects performing better in pronoun retention error type. Performance increased from adjacency error type to morphological ending error type with exception in the GEN position, and from morphological error type to pronoun retention error type.

Figure 4.12: Interactions between Relative Clause Type and Error Type on GJT

Another significant interaction effect of treatment and error type (F (2, 92) = 5.86, \( p = 0.0040 \)) indicates that the effect of treatment was moderated by that of error type (Figure 4.13). The BG shows better performance in adjacency and pronoun retention error types and the CG shows much better performance in the morphological marker error type.

Figure 4.13: Interactions between Treatment and Error Type on GJT
4.3.5 Pied-piping structure

On the CT the results were also analyzed for pied-piping structure to see if the type of instruction affected an appropriate placement of the preposition in OPR. It appeared that the subjects of both groups gained not only in OPR, but also in GEN. On the pretest both groups showed similar results. For the OPR type the BG got 53.57% correct and the CG got 51.61% correct. For the GEN type the BG got 14.29% correct and the CG got 13.71% correct (Figure 4.14). On the posttest the CG outperformed the BG in both types. The BG gained 25.86% and 20.25% on the OPR and GEN position respectively, and the CG gained 38.93% and 36.29% on the OPR and GEN position respectively.

Figure 4.14: Gains on CT by Pied-Piping Structure for Each Group

4.4 Discussion

Although much work has been done on the AH, no studies have been found regarding the impact of instruction upon the Russian relativization system. This study considered the effect of two types of instruction. The first type focused on the S, DO, and IDO relative clause positions and the second type focused on the OPR relative clause position. What was the impact of instruction focused on less marked relative clauses such
as S, DO, and IDO and on more marked relative clauses such as OPR?

Neither CT nor GJT showed a direct effect of instruction on the acquisition of the Russian relativization system. Both groups made equivalent gains in relativization ability on both the CT and GJT (Figures 4.5 and 4.7). It is interesting that the CT showed that the groups improved uniformly for S, DO, IDO, and OPR (Figure 4.5), and the GJT showed that the groups did much better for S (gain = 23.59%) and for OPR (gain = 18.63%) (Figure 4.7).

The CG alone gained more on pied-piping structure in the OPR and GEN positions on the CT (pied-piping was tested only in this test). The subjects of the group who received instruction on OPR were able to apply this instruction not only to the OPR type, but also were able to generalize to the more marked GEN type (Figure 4.14). It may be that subjects applied to a higher level the basic syntactical and morphological operators which are similar for these two types.

Nevertheless, properties of the English language may have some impact on the subjects’ OPR and GEN type production. It seems that some of the subjects in the BG transferred the stranding structure property into the Russian language. There were instances when the subjects placed the preposition at the end of the clause or after the relative pronoun in the OPR type.

We now turn to the groups’ pre-experimental ability to relativize. Figure 4.15 represents the subjects’ pre-experimental relativization ability on the CT. It indicates that the pre-instruction relativization ability of the subjects was quite developed. The lowest mean score on pronoun retention was 83.33% for GEN by the BG. On all other positions the two groups scored higher than that. Rather high relativization ability was shown in
adjacency. The lowest mean score of 62.1% was on S and OPR by the CG. Figure 4.15 indicates that in the two groups the pre-experimental ability to relativize with pronoun retention and adjacency was very similar among all RC types. This is not surprising, because the basic syntactic operations for adjacency and pronoun retention remain the same across all types (Doughty, 1991; Hamilton, 1994).

Figure 4.15: CT Pretest Results by Treatment, Error Type, and Relative Clause Type

Since the basic morphological operations in the Russian language are not uniform for all types, it is interesting to investigate the acquisition of morphology. It appears that pre-experimental ability to relativize with proper morphological ending reflects the AH

19 Adj means adjacency, Mor means morphological ending, and PrRet means pronoun retention.
The subjects of both groups showed that their relativization system was more developed in the S position and decreased gradually to the DO, IDO, and GEN, with the exception of the OPR position. In this position the two groups performed better than on less marked IDO. We can suggest that the pied-piping OPR structure makes it more prominent from those RC types which are less marked (Gass, 1979). This type is more prominent because it is the only type with the preposition in clause-initial position. The acquisition in GEN was not as high as in OPR because generally learners do not have much exposure to this structure.

After receiving instruction, both groups improved significantly on adjacency and pronoun retention (Figure 4.16). Both groups achieved better scores on morphology in all types of RC no matter the type of instruction (Table 4.5). However, the BG outperformed the CG for the S, DO, and IDO positions and the CG outperformed the BG for the OPR position. These findings support those of Croteau (1995). Learners performed better on the RC type(s) on which they were instructed. Although both groups did not receive instructions on GEN, they achieved on this type sufficiently with the BG outperforming the CG. Perhaps the explanation is in the nature of this RC type: it requires the relative pronoun in the genitive case only.

Table 4.5: Gains in Morphology on CT by Relative Clause Type

<table>
<thead>
<tr>
<th></th>
<th>BG</th>
<th>CG</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>15.23</td>
<td>3.39</td>
</tr>
<tr>
<td>DO</td>
<td>22.67</td>
<td>20.93</td>
</tr>
<tr>
<td>IDO</td>
<td>40.11</td>
<td>22.83</td>
</tr>
<tr>
<td>OPR</td>
<td>22.31</td>
<td>25.21</td>
</tr>
<tr>
<td>GEN</td>
<td>17.64</td>
<td>15.47</td>
</tr>
</tbody>
</table>
On the recognition task (the GJT) pre-experimental ability to relativize was presented in another way (Figure 4.17). The subjects performed quite poorly on adjacency. The subjects of both groups showed quite high recognition of pronoun retention on the S, IDO, and GEN positions. It should be noted that the subjects’ performance reflected the AH with protrusion of the OPR position in both morphology and the correct sentences.

Figure 4.17: GJT Pretest Results by Treatment, Error Type, and Relative Clause Type

After receiving instruction, the CG significantly improved on morphological ending and outperformed the BG not only on OPR, but also on DO, IDO, and GEN.

---

20 This will be discussed later in this chapter.

21 Cor means a correct sentence.

52
The results of production task contradict the results of recognition task. Whereas in the CT each group achieved more on the instructed level, in the GJT the CG outperformed the BG on all levels except the S position.

Table 4.6: Gains in Morphology on GJT by Relative Clause Type

<table>
<thead>
<tr>
<th></th>
<th>BG</th>
<th>CG</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>12.80</td>
<td>6.93</td>
</tr>
<tr>
<td>DO</td>
<td>-4.58</td>
<td>10.42</td>
</tr>
<tr>
<td>IDO</td>
<td>12.62</td>
<td>39.20</td>
</tr>
<tr>
<td>OPR</td>
<td>10.02</td>
<td>32.13</td>
</tr>
<tr>
<td>GEN</td>
<td>-.97</td>
<td>20.33</td>
</tr>
</tbody>
</table>

Although prior to instruction the two groups were familiarized with all RC types, it is obvious that the CG, which received explicit instruction on OPR, acquired this position much better. During instruction the subjects’ attention was drawn to the OPR properties with its pied-piping obligatory syntactic structure. It seems that the CG was able to generalize this learning to GEN, which is higher in the hierarchy. It is possible that a review of all RC types assisted the CG in this generalization and was not enough for the BG.

There was a significant direct effect of matrix position in both CT and GJT, that is, the performance on matrix position was significant though there were no significant differences between the groups. The BG slightly outperformed the CG on the CT (Figure 4.2) and the CG outperformed the BG on the GJT (Figure 4.4). On the CT, all subjects did better for the object matrix position, revealing a 20.75% gain on this type. This supports findings by other researchers (Kuno, 1974; Schumann, 1980; Wong, 1991; Hamilton, 1994; Izumi, 2003). It was easier for the subjects to produce sentences with the
object matrix position. However, on the GJT the results were the opposite. All subjects did better on the subject matrix position, gaining 21.61%; whereas the gain on the object matrix position was 11.87%. This suggests that the recognition of the subject matrix position was easier than that of the object matrix position.

It should be noted that in identifying matrix position, for some test items, various syntactic cues might have helped the subjects to derive correct answers. For example, in the sentence *Письмо очень большое, которое лежит на столе. (Pretest, # 12) there is only one noun. Since relative pronouns modify nouns or noun phrases, it is obvious that the relative clause must follow nouns/noun phrases (in our example this is the word письмо). On the other hand, in the sentence *Подругу студентка встретила, которой она дала тетрадь. (Pretest, # 10) there are two nouns. The first one is in the accusative case and the second one is in the nominative case. In this sentence the subjects had a choice to move one of the two given nouns in front of the relative clause. Some of the subjects chose to move the word студентка instead of the word подругу. They recognized that a noun must precede the relative clause, but did not identify the relationship between that noun and the relative clause. Therefore, there were more possibilities for subjects to identify incorrectly such sentences when the RC was in the object matrix position.

Another implicit cue might have been hidden in the structure of some sentences. The sentences with incorrect adjacency in the subject matrix position were easier to recognize because to form an incorrect sentence the relative clause was just moved to the end of the sentence. In the sentence *Студент слушает музыку, которому мы принесли учебники. (Posttest, # 26) the relative clause was just attached to the sentence.
The subjects were able to see and analyze the main clause and decide on the relative clause. In addition, the noun музыку is inanimate and this may also have served as an implicit cue. In the sentence *Мы, которое мы раньше не делали, упражнение делаем. (Posttest, # 4) the subjects could not see a clear main clause. It was broken by the relative clause inserting into it. Perhaps this hindered subjects in finding the correct answer for sentences with this type of structural change.

There was also a significant direct effect of error type in both tests. The performance on error type was statistically different on posttests compared with pretests (Figures 4.9 and 4.10). On the CT the subjects scored much higher on adjacency and pronoun retention than on morphology. On the GJT the subjects improved in morphology three times as much as on the CT (Table 4.7). This improvement in morphology may support findings that recognition is easier than production. (Hyltenstam, 1984; Ellis, 1994; Izumi, 2003). Since matrix positions directly relate to the adjacency error type, the discussion above on matrix positions applies to this point. It may be why on the GJT the subjects did not improve on adjacency error type as much as on the same type of error on the CT.

Table 4.7: Gains on CT and GJT by Error Type for Both Groups

<table>
<thead>
<tr>
<th></th>
<th>CT</th>
<th>GJT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjacency</td>
<td>25.55</td>
<td>7.09</td>
</tr>
<tr>
<td>Morphology</td>
<td>4.63</td>
<td>15.00</td>
</tr>
<tr>
<td>Pronoun Retention</td>
<td>27.58</td>
<td>28.12</td>
</tr>
</tbody>
</table>

There was a significant two-way interaction effect of relative clause type and error type on both tests. This interaction illustrates that the effect of relative clause type
was moderated by that of error type. On the CT the subjects’ performance on adjacency and pronoun retention error types was much better than that on the morphological error type (Figure 4.11). Once more, because the former two types of error are uniform among all RC types and the latter is not, they were acquired with ease throughout all RC types (Doughty, 1991; Hamilton, 1994). The performance on morphology on GEN was worse than that in adjacency and pronoun retention.

On the GJT the subjects performed from best to worst in this order: pronoun retention, morphology, and adjacency (Figure 4.12). Among RC types again the performance on GEN was worse for the morphological error type. Surprisingly, the performance on IDO was worse for the adjacency type. In fact, the subjects lose on performance of the morphological error type for GEN and for the adjacency error type for the IDO. These findings suggest that teaching rule-oriented instruction may be an effective way to teach relativization.

Another significant two-way interaction effect on the GJT was of the treatment and error type. The students’ performance on different types of errors was moderated by treatment type. The CG significantly outperformed the BG in the morphological error type. Although the BG did better on adjacency and pronoun retention than the CG, mean gains on adjacency and pronoun retention were not far different from one group to the other (Figure 4.13). However, the mean gain on morphology for the CG was much higher than the mean gain on morphology for the BG. These findings suggest that instruction on OPR was more effective for recognition the morphological error type. Thus, teaching the students using morphology oriented instruction may be an effective way to teach relativization.
4.5 Conclusion

This study examined the acquisition of relative clauses in the Russian language by postsecondary USA students. We were interested if learners after receiving instruction in less accessible RC would be able to generalize that learning to more accessible types and if learners after receiving instruction in more accessible RC would be able to generalize that learning to less accessible types.

The results of the two tests showed that the subjects of both groups made progress in all relativization types either instructed or not instructed. Thus, the BG after receiving instruction in S, DO, and IDO were able to perform better not only on these RC types, but also in more marked types, such as OPR and GEN. The CG after receiving instruction in the OPR RC type were able to generalize that learning to less marked or more accessible to relativization RC types, such as S, DO, and IDO and one that is higher in the hierarchy GEN. As suggested by Doughty (1991) and Ammar and Lightbown (2005), learners are able to generalize in both directions after receiving instruction on one relatively marked RC position.

The present study examined three possible types of errors (not adjacency, incorrect morphological ending in the relative pronoun, and pronoun retention) separately. Treating them individually allowed seeing what role each of them played in acquiring relativization. Both groups gained significantly and performed uniformly in adjacency (CT) and avoiding pronoun retention (both tests). Perhaps the basic syntactic operations, which are the same for all RC types in the Russian language, assisted the learners in dealing with these error types. These results support Hamilton’s (1994) findings according to which subjects are able to generalize in both directions because of
the bidirectional and cumulative\textsuperscript{22} nature of generalization.

The subject of both groups gained much less in morphology in both tests with more gain in recognition task than in production task. It seems that the basic morphological operation, such as preservation of a case in the relative pronoun (Doughty, 1991; Hamilton, 1994) did not work well in the Russian language. Within actual (in production task) or mental (recognition task) replacement of the noun with the relative pronoun, the nominal case ending for the noun must be changed to the adjectival case ending for the relative pronoun even though the function of the relative pronoun is preserved and remains the same as that of the replaced noun. We can assume that it is cognitively difficult for the learner to change nominal ending to the adjectival ending of the relative pronoun, both of which have different origins and do not match. Perhaps for highly declensional languages such as Russian this operation is difficult to acquire and should be devoted a sufficient amount of instruction time.

The interaction between treatment and error type on the GJT showed that there was effect of treatment on error type. The effect of treatment on adjacency and pronoun retention error types in both groups were similar with the BG treatment moderating these types of error better than the CG treatment. Nevertheless, the CG treatment had better effect of morphological ending error type. It may be suggested that the CG treatment, which supplied more morphological variations during instruction than the BG one, facilitated the performance of this error type.

Whereas generalization of adjacency and avoidance of pronoun retention can be

\textsuperscript{22} Although this study supports bidirectionality of generalization, it did not aim to analyze its cumulative nature. In order to do this data should be analyzed for each subject in the study individually.
explained by their uniform rules for all RC types; it is unclear how the subjects of the BG were able to generalize their learning in morphology to the OPR type and how subjects of both groups were able to generalize their learning in morphology to the GEN type. I propose a few speculations. First, the pretest results showed that the subjects’ relativization system was quite developed. Furthermore, it is known from the subjects’ background information that many of them studied other foreign languages prior to the experiment. Amongst those were other Slavic languages (Ukrainian, Serbo-Croatian, Bulgarian, and Czech). These subjects may have relied on the knowledge during the experiment. Second, the subjects were familiarized with only one of the POSS type which is the highest in the hierarchy, with GEN in particular (see chapter 2). It means that in this RC type the relative pronoun was used only in the genitive case. The CG practiced this case; whereas the BG did not. However, the BG practiced the accusative case, which has the same endings as the genitive for animate masculine and plural. Perhaps in addition to the subjects’ developed relativization system, instruction in the accusative animate assisted them in improving their performance in GEN.

In addition to analyzing three types of error, which are common for all RC types, subjects’ production (CT) of the OPR and GEN types were analyzed on pied-piping structure. Both groups showed improvement in pied-piping on the posttest in both OPR and GEN with the CG outperforming the BG. Perhaps previous knowledge (the pretest showed quite high results especially in the OPR) allowed both groups to perform better on the posttest, and perhaps the CG instruction on the OPR type facilitated their performance more in this type. Interestingly, in the GJT all the OPR and GEN items were given in correct forms and none of the subjects moved the preposition (in the OPR type)
or the possessive noun (in the GEN type) from the case-initial to another position.
Chapter Five: CONCLUSIONS AND RECOMMENDATIONS

The results of the two tests showed that the two types of instruction facilitated the subjects’ performance on the posttests. The subjects of both groups did significantly better in all relativization types either instructed or not instructed, either marked or unmarked. To confirm this result, further research might include a control non-instructed group.

This research focused on written production of relative clauses in the Russian language. Further research using different types of procedures should be helpful in examining learners’ oral production and comprehension of relative clauses.

Amongst other limitations are a sample of the study, participants’ proficiency in the Russian relativization system, and time of instruction. First, the relatively small sample means that generalizations must be made with caution. Second, the subjects’ relativization system was quite developed. It should be interesting to test students with a less developed relativization system. Third, the amount of time devoted to instruction was not sufficient. Reduplication of the study with increased numbers of participants, amount of time, and testing subjects with lower relativization ability might reveal different results.

Despite the fact that this research has some limitations, practicing professionals may find useful implications in teaching relative clause acquisition in the Russian language as a foreign language. Examination of error types separately and interactions between RC type and error type allowed investigating that the subjects did not perform well on the morphological endings for the relative pronoun. Thus, teaching instruction should be morphology oriented, since this may take more time and effort to acquire than
adjacency and the absence of pronoun retention. Since acquisition of the adjacency and pronoun retention types is uniform for all RC types, acquiring them on a less marked level assists learners in transferring that knowledge to more marked levels. Also this research showed that a simple overview of all relative clause types is not enough for acquisition of the pied-piping OPR and GEN structure. Teaching instruction should be focused on this structural type in more depth.

This study suggests that teaching one relatively marked RC type is beneficial as teaching several including the beginning position and one of relatively marked positions. In this study the two groups improved their performance regardless the type of instruction. Both instructions either on one of the relatively marked type as OPR or on three other RC types, one of which was relatively marked as well, facilitates learners’ acquisition of relative clauses. Furthermore, the subjects improved their performance not only on instructed level and on those which were lower in the hierarchy, but also on that/those which were higher in the hierarchy. This study agrees with previous research in English in the part that the AH is bidirectional rather than unidirectional. In further research, to confirm these findings analyses of individual data should be performed. Question about unidirectionality of generalization is open for future investigation in a variety of languages.
References


APPENDICES

Appendix 1: Questionnaire

Name ______________________________

1. First language (the language you learned as a child)
   ______________________________________________

2. Other languages you learned (list all including Russian)
   ______________________________________________

3. Age (years, months) _________________

4. Gender ___________

5. Opportunity for naturalistic acquisition where Russian served as the main medium of communication (number of yours and months spent either in a Russian speaking country or in intensive program such as Middlebury Language School)
   ______________________________________________

6. Social economic status (SES)
   ➢ Occupation of primary caretaker while you were living at home
     ______________________________________________
   ➢ Level of education ______________________________


Appendix 2: Combination Test

Instructions: Combine the two sentences of each problem to form one good Russian sentence containing a relative pronoun который. Start with the first sentence in each case and do not omit any of the information contained in either of the two sentences. Combine two sentences together in a way that the underlined word(s) in the first sentence will be specified or identified by the information contained in the second sentence. The first word for each of the sentences you will create is written for you.

You will have twenty minutes to complete this task.

Pretest

1. Я знаю студентку. Студентка читает журнал.
   I know the student. The student is reading a magazine.

2. Мы встретили девушку. Я хочу подарить подарок девушке.
   We met the girl. I want to give a gift to the girl.

3. Общежитие очень большое. Общежитие находится недалеко от университета.
   The dormitory is very big. The dormitory is located near the university.

4. Студенты любят русскую историю. Студенты учатся на нашем курсе.
   The students love Russian history. The students are studying in our department.

5. Я встретил друга. Утром я видел друга.
   I met my friend. I saw my friend in the morning.

23 On the actual test the students were not provided with the English translation of the sentences.
6. Мой друг читает книгу. Я читал книгу раньше.
My friend is reading a book. I have read the book before.

7. Мой брат любит девушку. Отец девушки живёт в Москве.
My brother loves a girl. The girl’s father lives in Moscow.

8. Животное интересует нас. Мы дали животному хлеб.
The animal is interesting to us. We gave bread to the animal.

9. Моя сестра встретила подругу. Моя сестра купила журнал для подруги.
My sister met her friend. My sister bought the magazine for her friend.

10. Я встретила студента. В рюкзаке студента были книги.
I met the student. In the student’s backpack there were books.

11. Я знаю магазин. Ты ходишь в магазин каждый день.
I know the store. You go to the store every day.

12. Музыканты живут в Нью-Йорке. Студенты получили письмо от музыкантов.
The musicians live in New-York. The students received a letter from the musicians.
13. Письмо лежит на столе. Ты говорил мне о письме.
The letter is lying on the table. You told me about the letter.

14. Мой брат знает мальчика. Я читаю книгу мальчику.
My brother knows the boy. I am reading the book to the boy.

15. Задание очень интересное. Студенты делают задание.
The exercise is interesting. The students are doing the exercise.

16. Студенты живут в общежитии. Мы знаем студентов.
The students live in the dormitory. We know the students.

17. Художники приехали в наш город. Мы читали в журнале о картинах художников.
The artists arrived at our city. We have read about the artists’ paintings in the magazine.

18. Сочинение лежит на столе. Тема сочинения очень интересная.
The composition is lying on the table. The composition’s topic is interesting.

19. Студенты уехали в Москву. Мы принесли студентам письмо.
The students left for Moscow. We brought the letter to the students.
Posttest

1. Я вижу студента. Студент читает книгу.
   I see the student. The student is reading a book.
   Я _____________________________________________________________
   I _____________________________________________________________

2. Я встретил друга. Я хочу подарить подарок другу.
   I met my friend. I want to give a gift to my friend.
   Я _____________________________________________________________
   I _____________________________________________________________

3. Студенты учатся на факультете лингвистики. Студенты любят русскую литературу.
   The students are studying linguistics. The students love Russian literature.
   Студенты _____________________________________________________
   The students ___________________________________________________

4. Мороженое очень вкусное. Мороженое лежит в холодильнике.
   Ice-cream is very tasty. The ice-cream is lying in the refrigerator.
   Мороженое ____________________________________________________
   Ice-cream _____________________________________________________

5. Я встретила подругу. Вчера я видела подругу.
   I met my friend. I saw my friend yesterday.
   Я _____________________________________________________________
   I _____________________________________________________________

6. Мой друг читает журнал. Я читал журнал раньше.
   My friend is reading a magazine. I have read the magazine before.
   Мой ___________________________________________________________
   My ____________________________________________________________

7. Моя сестра любит аспиранта. Отец аспиранта живет в Москве.
   My sister loves the graduate student. The graduate student’s father lives in Moscow.
   Моя ___________________________________________________________
   My ____________________________________________________________
8. Писатели интересуют нас. Мы пишем письмо писателям.
   The writers are interesting to us. We are writing a letter to the writers.

9. Мой брат встретил друга. Мой брат купил учебник для друга.
   My brother met his friend. My brother bought a textbook for his friend.

10. Я встретила девушку. В сумке девушки были журналы.
    I met the girl. There were magazines in the girl’s bag.

11. Я знаю библиотеку. Ты ходишь в библиотеку каждый день.
    I know the library. You go to the library every day.

12. Сочинение лежит на парте. Ты говорил мне о сочинении.
    The composition is lying on the desk. You told me about the composition.

13. Родители живут в другом городе. Студенты получили письмо от родителей.
    The parents live in a different city. The students received a letter from their parents.

14. Моя сестра знает девочку. Я читаю книгу девочке.
    My sister knows the girl. I am reading a book to the girl.
15. **Упражнения** очень трудные. Студенты делают упражнения.
The exercises are very difficult. The students are doing the exercises.

16. **Одеяло** лежит на кровати. Мы купили одеяло.
The blanket is lying on the bed. We bought the blanket.

17. **Общежитие** находится близко от университета. Мы читали в газете о директоре общежития.
The dormitory is located near the university. We have read in a newspaper about the dormitory’s director.

18. **Сочинения** лежат на столе. Тема сочинений очень интересная.
The compositions are lying on the table. The composition’s topic is very interesting.

19. **Животное** спит на полу. Мы принесли животному хлеб.
The animal is sleeping on the floor. We brought bread to the animal.

20. Мы встретили **студентку**. Студентка работает в ресторане.
We met the student. The student is working in the restaurant.
Appendix 3: Grammaticality Judgment Test

Pretest

Instructions: Read the sentences below and decide whether they are grammatically correct or incorrect. Write the C for correct sentences and the I for incorrect sentences in the space provided in front of each sentence. If you decide that the sentence is incorrect, make necessary changes. Each sentence has just one mistake. While you are reading the sentences, you will hear an oral presentation of each sentence. A fifteen second pause is inserted after each sentence during which you should make your grammatical judgment about the sentence. For incorrect sentences correct the error by moving words around, crossing words out, and/or making changes to the endings; however, DO NOT add extra words.

Use provided symbols and labels to complete the task:

<table>
<thead>
<tr>
<th>Example</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A word</td>
<td>Delete the item</td>
</tr>
<tr>
<td>The item you want to move</td>
<td>Item you want to move to another part of the sentence</td>
</tr>
<tr>
<td>Word, word, and another word</td>
<td>Show the place to where you are moving the item</td>
</tr>
</tbody>
</table>

1. Письмо читают студенты, о котором говорил профессор. The students are reading a letter that the professor told them about.

2. Мы видели девушку, для которой мы купили для неё книгу. We saw the girl for whom we bought the book.

3. Студента встретили мы, отец которого уехал в Петербург. We met the student whose father left for Petersburg.
4. Моя подруга, которая я пишу письмо, живёт в Петербурге.
My friend, for whom I am writing a letter, lives in Petersburg.

5. Студент читает книгу, которую он купил её сегодня.
The student is reading a book which he bought today.

6. Мы знаем студентку, сестра которой работает в библиотеке.
We know the student whose sister works at the library.

7. Художники, фотографию которого мы видели в газете, живут в нашем городе.
The artists whose picture we saw in the newspaper live in our city.

8. Магазин, в который мы часто ходим, находится недалеко от нашего университета.
The store that we go to every day is located near our university.

9. Мы знаем студента, который он читает Достоевского на русском языке.
We know the student who read Dostoyevsky in Russian.

10. Подругу студентка встретила, которой она дала тетрадь.
The student met her friend to whom she gave a notebook.

11. Мы, которое мы раньше не делали, делаем задание.
We are doing the exercise which we have not done before.

12. Письмо очень большое, которое лежит на столе.
The letter which is lying on the table is very interesting.

13. Я не знаю студентов, от которой ты получила письмо.
I don’t know the students from whom you received a letter.

14. Мороженое, который купил мой отец, лежит в холодильнике.
The ice-cream that my father bought is in the refrigerator.
15. We met the graduate student who is taking courses in our department.

16. I met friends whom I have not seen for a long time.

17. I have not met the students for whom I bought textbooks.

18. My friend is waiting for the teacher to whom he wants to give a book.

19. They know the bank that my sister goes to every day.

20. The students whom we had seen in the park were going to the class.

21. The student, whose parents were in the USA, speaks English.

22. The boy, to whom his mother is reading a book, is listening attentively.

23. The students, to whom their parents bought computers, live in the dormitory.

24. The graduate student whose son is studying at our university left for New-York.

25. The girl, who likes to draw, often goes to the museum.
The girl, who loves drawing, often goes to the museum.

26. Моя подруга, которую мы видели в библиотеке, печатала на компьютере.
My friend whom we saw in the library is typing on the computer.

27. Парень, который говорит по телефону, работает в банке.
The boy who is talking on a phone works at a bank.

28. Студентка живёт в другом городе, от которой я получил письмо.
The student from whom I received a letter lives in another city.

29. Мои соседи, для которых я купил для них газету, живут на втором этаже.
My neighbors for whom I bought a newspaper live on the second floor.

30. Студенты пишут сочинение, тема которого его очень интересная.
The students are writing compositions the topic of which is very interesting.

31. Мы читаем газеты, на страницах которые пишут о русской культуре.
We are reading newspapers on which pages they write about Russian culture.

32. Домашнее задание, о которой мы говорили, очень трудное.
The homework we were talking about is very difficult.

33. Студентов видела она, которые шли в библиотеку.
She saw the students who were going to the library.

34. Они видят животное, которому девочка ему даёт хлеб.
They see the animal which the girl is giving bread to.

35. Студентка несёт журнал, которым она купила для соседки.
The student is carrying a magazine which she bought for her roommate.
36. The textbook which the graduate student bought is lying on the shelf.

37. The animal for which I bought bread is sleeping on the bed.

38. The dormitory which director is studying history is located near the stadium.

39. My friend bought for me a blanket which is on my bed.

40. The boys who are listening to music love going to the theater.
1. Девочки, которые слушают классику, они любят ходить на концерты.
The girls who are listening to classical music love going to the concert.

2. Аспирантов видел он, которые шли в университет.
He saw the graduate students who were going to the university.

3. Девочка, которую любит читать, каждый день ходит в библиотеку.
The girl, who loves reading, goes to the library every day.

4. Мы, которое мы раньше не делали, упражнение делали.
We have done the exercise which we had not done before.

5. Сестру встретила студентка, которой она дала журнал.
The student met her sister to whom she gave a magazine.

6. Общежитие, студенты которого учатся на биологическом факультете, находится недалеко от университета.
The dormitory which students studying Biology is located near the university.

7. Они видели девочку, для которой мы купили для неё шоколад.
They saw the girl for whom we bought chocolate.

8. Упражнение делают студенты, о котором говорил профессор.
The students are doing the exercise that the professor told them about.

9. Мы, брат которого учится в Петербурге, встретили аспиранта.
We met the graduate student whose brother is studying at Petersburg.

10. Мы знаем аспиранта, который он читает Толстого на русском языке.
We know the graduate student who read Tolstoy in Russian.
11. The graduate students to whom their friends bought pencils lives near the university.

12. The girl is carrying a magazine that she bought for her parents.

13. We saw the animal that the boy gives bread to.

14. The students are doing their homework which exercises are very difficult.

15. The boy who is typing on the computer is studying math.

16. The pencil that the student bought is on the table.

17. The student is reading a newspaper which he bought today.

18. The boy, whose brothers were in Russia, speaks Russian.

19. The pastry that my father bought is on the table.

20. The writers whose book we saw in the store were born in our city.

21. The radio that my friend bought is on the table in the living room.
My friend bought for me the radio that is on the table in the living room.

22. Мы встретили соседей, которых мы не видели давно.
We met our neighbors whom we had not seen for a long time.

23. Мы читаем журналы, на страницах которые пишут о русской истории.
We are reading a magazine on which pages are written about Russian history.

24. Девушка, которую мы видели в лаборатории, печатала на компьютере.
The girl, whom we saw in the computer lab, was typing on the computer.

25. Моя подруга, которого я купила мыло, живёт в общежитии.
My friend, for whom I bought a bar of soap, lives in a dormitory.

26. Студент слушает музыку, которому мы принесли учебники.
The student, to whom we brought textbooks, is listening to music.

27. Моя сестра живёт недалеко от университета, от которой я получила письмо.
My sister from whom I received a letter lives near the university.

28. Мы встретили студентов, которым мы купили журналы.
We met the students for whom we bought magazines.

29. Мы знаем магазин, в который моя мать ходит каждый день.
We know the store, where my mother goes to every day.

30. Мы ждём профессора, которого мы дадим наши домашние задания.
We are waiting for the professor, to whom we will give our homework.

31. Сочинение, о который мы говорим, очень интересное.
The composition we are talking about is very interesting.

32. Студенты пришли поздно, которых мы пригласили на вечеринку.
The students whom we invited to the party came late.

33. Мы знаем девочку, родители которой работают в банке.
We know the girl whose parents work at the bank.

34. Банк, в который мы ходим, находится недалеко от нашего университета.
The bank to which we go is located near our university.

35. Мои друзья, для которых я для них купила книги, живут на пятом этаже.
My friends for whom I bought books live on the fifth floor.

36. Мы встретили студентку, которую работает в ресторане.
We met the student who is working in the restaurant.

37. Объявление очень большое, которое висит на стене.
The announcement that is on the wall is very long.

38. Мы знаем аспирантов, от которых ты получила письмо.
We know the graduate students from whom you received a letter.

39. Животное, которому мы принесли ему воду, спит на полу.
The animal to which we brought water is sleeping on the floor.

40. Студентка, её сестра которой живёт в общежитии, уехала в Москву.
The student whose sister lives in a dormitory left for Moscow.
Appendix 4: Scoring Rubric for CT

I. For each combined sentence there are 3 possible points. Give one point for each of the following:

1. Correct adjacency for S, DO, IDO and OPR types: – 1 point
   Do not give a point for this category if:
   • the relative pronoun is not adjacent to the modified word:
     Incorrect:
     Сочинение лежит на парте, о котором ты мне говорила.
     The essay is on the desk about which you told me.
     Correct:
     Сочинение, о котором ты мне говорила, лежит на парте.
     The essay about which you told me is on the desk.

2. For the OPR and GEN types give additional point for pied-piping: – 1 point
   • in the OPR type, if a preposition does not precede the relative pronoun give no point:
     Incorrect:
     Сочинение, котором о ты мне говорила, лежит на парте.
     Сочинение, которое ты мне говорила о, лежит на парте.
     The essay which about you told me is on the desk.
     Correct:
     Сочинение, о котором ты мне говорил, лежит на парте.
     The essay about which you told me is on the desk.
   • in the GEN type, if a noun referring to the relative pronoun is not placed before the relative pronoun give no point:
     Incorrect:
     Сочинения, которых тема очень интересная, лежат на парте.
     Сочинение, которое очень интересная тема, лежит на парте.
     The essays which topic is very interesting is on the desk.
     Correct:
     Сочинение, тема которого очень интересная, лежит на парте.
     The essay the topic of which is very interesting is on the desk.

3. Correct morphological relative pronoun ending – 1 point
   • Consider the following as correct answers:
4. Absence of repetitive personal pronoun or noun  – **1 point**

- Do not give a point for this category if a sentence has a repetitive relative pronoun:
  Incorrect:
  Сочинение, о котором ты мне говорила, оно лежит на столе.
  The essay about which you told me it is on the table.
  Correct:
  Сочинение, о котором ты мне говорила, лежит на столе.
  The essay about which you told me is on the table.

- Do not give a point for this category if a sentence has a repetitive modified noun:
  Incorrect:
  Сочинение, о котором о сочинении ты мне говорила, лежит на столе.
  The essay about which about essay you told me is on the table.
  Correct:
  Сочинение, о котором ты мне говорила, лежит на столе.
  The essay about which you told me is on the table.
1. If the two sentences of the item are switched around and, therefore, the subjects did not produce the target relative clause type, give no points.

2. If the task is not done (for example, a subject left it blank), give no points.

The total of possible points for each subject is 68 (12 sentences [SU, DO, and IO] x 3 possible points for each sentence and 8 sentences [OPREP and GEN] x 4 possible points for each sentence).
Appendix 5: Scoring Rubric for GJT

1. The ten sentences with
   - morphological marker errors score ONLY this type of error. Ignore all other types of errors. Give 1 point for a correct sentence.
   Incorrect:
     Студентка несёт журнал, которым она купила для соседки.
   Correct:
     Студентка несёт журнал, который она купила для соседки.
   - pronoun retention errors, score ONLY this type of error. Ignore all other types of errors. Give 1 point for a correct sentence.
   Incorrect:
     Студент читает книгу, которую он купил её сегодня.
   Correct:
     Студент читает книгу, которую он купил сегодня.
   - adjacency error, score ONLY this type of error. Ignore all other types of errors. Give 1 point for a correct sentence.
   Incorrect:
     Студентка живёт в другом городе, от которой я получил письмо.
   Correct:
     Студентка, от которой я получил письмо, живёт в другом городе.

2. In the ten correct sentences consider any of the three target errors. Give one point for a correct sentence and give no point for an incorrect sentence with any of the target errors. Make a note what kind of error was made. In addition, if the subject made an error in internal adjacency, note it, as well.
   - for correct adjacency – 1 point
   - for correct morphology – 1 point
   - for absence of pronoun repetition – 1 point
   - for not marked correct sentence – 1 point

   TOTAL – 4 points

The total of possible points for each subject is 40 (30 sentences with one of the target error x 1 possible point for each sentence and 10 correct sentences x 1 possible point for each sentence).
Appendix 6: Instructions

Overview

Вчера приходили студенты, которые приехали из России.

они приехали из России

Вчера приходили студенты, которых ты не знаешь.

ты не знаешь студентов

Вчера приходили студенты, которым мы подарили открытки.

мы подарили открытки студентам

Вчера приходили студенты, о которых я тебе рассказывала.

я рассказывала тебе о студентах

Вчера приходили студенты, родители которых были в России.

родители студентов были в России

Adapted from «В пути» by Olga Kagan & Frank Miller
<table>
<thead>
<tr>
<th>Падеж</th>
<th>Мужской род</th>
<th>Средний род</th>
<th>Женский род</th>
<th>Множ. число</th>
</tr>
</thead>
<tbody>
<tr>
<td>Им / Nom&lt;br&gt;Что это?&lt;br&gt;Кто это?</td>
<td>новый автобус</td>
<td>новое слово</td>
<td>новая газета</td>
<td>новые автобусы</td>
</tr>
<tr>
<td>Вин / Acc&lt;br&gt;Вижу (что, кого)</td>
<td>новый автобус&lt;br&gt;нового студента</td>
<td>новое слово&lt;br&gt;новое слово</td>
<td>новую газету&lt;br&gt;новую газету</td>
<td>новые автобусы&lt;br&gt;новых студентов</td>
</tr>
<tr>
<td>Род / Gen&lt;br&gt;Нет (чего, кого)</td>
<td>нового автобуса</td>
<td>нового слова</td>
<td>новый газеты&lt;br&gt;нового слова</td>
<td>новых автобусов&lt;br&gt;новых слов</td>
</tr>
<tr>
<td>Пред / Prep&lt;br&gt;Говорю о (чём, ком)</td>
<td>новом автобусе</td>
<td>новом слове</td>
<td>новой газете&lt;br&gt;новом слове</td>
<td>новых автобусах&lt;br&gt;новых слов</td>
</tr>
<tr>
<td>Dat / Dat&lt;br&gt;Верю (чему, кому)</td>
<td>новому студенту</td>
<td>новому слову</td>
<td>новой газете&lt;br&gt;новому слову</td>
<td>новым студентам&lt;br&gt;новым словом</td>
</tr>
</tbody>
</table>
The Basic Treatment Group

Day 1

**Adjacent subject position:**

Это – мой друг, который пишет письмо своим родителям.

Мой друг пишет письмо своим родителям.

Combine the following:

Вчера приходила студентка. Студентка купила телефон.

Вчера приходил студент. Студент купил телефон.

Вчера приходили студенты. Студенты купили телефон.

**Adjacent direct object position:**

Это мой старший брат, которого я очень люблю.

Я очень люблю моего старшего брата.

Combine the following:

Вчера приходила студентка. Мы пригласили студентку на вечеринку.

Вчера приходили студенты. Мы пригласили студентов на вечеринку.

Вчера приходил студент. Мы пригласили студента на вечеринку.

**Adjacent indirect object position:**

Это – кошка, которой мы принесли молоко.

Мы принесли молоко кошке.

Вчера приходили студенты. Мы подарили студентам телефон.

Вчера приходил студент. Мы подарили студенту телефон.

Вчера приходила студентка. Мы подарили студентке телефон.
Day 2

**Inserted subject position:**

Друг, который хорошо говорит по-русски, приедет ко мне завтра.

Друг хорошо говорит по-русски.

Combine the following:

Студентка работает в международной фирме. Студентка хорошо знает русский язык.

Студент работает в международной фирме. Студент хорошо знает русский язык.

Студенты работают в международной фирме. Студенты хорошо знают русский язык.

**Inserted direct object position:**

Мой старший брат, которого я не видел давно, учится в России.

Я не видел давно моего старшего брата.

Combine the following:

Студентка любит звонить по телефону. Мы встретили студентку.

Студенты любят звонить по телефону. Мы встретили студентов.

Студент любит звонить по телефону. Мы встретили студента.

**Inserted indirect object position:**

Моя младшая сестра, которой я подарил стихи Пушкина, изучает русский язык.

Я подарил стихи Пушкина моей младшей сестре.

Combine the following:

Студенты любят слушать музыку. Я принёс CD студентам.
Студент любит слушать музыку. Я принёс CD студенту.

Студентка любит слушать музыку. Я принёс CD студентке.

Fill in the blanks:

1. Студент, ________________, много читает.

2. Студентка, ________________, хорошо знает русский язык.

3. Студенты, ________________, приехали из Франции.
   a. которые учатся в университете.
   b. которая учится в университете.
   c. который учится в университете.
Day 3

Combine the following:

1. Алик потерял телефон. Его брат подарил ему телефон.
2. Когда Алик пришёл домой, он сел читать письма. Он получил письма по электронной почте.
3. Письмо написала мама. Алик получил письмо.
4. Мама рассказала о его брате. Брат разбил машину.
5. Брат разбил машину. Он и его брат купили машину месяц назад.
6. Машина была дорогая и новая. Брат разбил машину.
7. Брат собирается починить машину. Он купил машину брату.

Combine the following:

1. Я получил приглашение на свадьбу. Приглашение прислал мой брат.
2. Мой брат пригласил меня на свадьбу. Он живёт в Лондоне.
3. Билет на самолёт стоил 200 рублей. Я купил билет.
4. Я приехал в аэропорт. Аэропорт называется Шереметьево.
5. Мне очень понравилась музыка. Я слушал музыку в самолёте.
6. Мне очень понравился фильм. Я смотрел фильм в самолёте.
7. Сувениры я подарю моему брату. Я купил сувениры в аэропорту.
8. Наши родители тоже были на свадьбе. Я купил билет родителям.
The Complex Treatment Group

Day 1

Adjacent object of preposition position (the Genitive case with the proposition ОТ):

Это – мой друг, от которого я получил письмо.

Я получил письмо от моего друга.

Combine the following:

Вчера приходила студентка. Мы получили письмо от студентки.

Вчера приходил студент. Мы получили письмо от студента.

Вчера приходили студенты. Мы получили письмо от студентов.

Adjacent object of preposition position (the Genitive case with the proposition ДЛЯ):

Это мой старший брат, для которого я купил стихи Пушкина.

Я купил стихи Пушкина для моего старшего брата.

Combine the following:

Вчера приходила студентка. Родители купили телефон для студентки.

Вчера приходили студенты. Родители купили телефон для студентов.

Вчера приходил студент. Родители купили телефон для студента.

Adjacent object of preposition position (the Prepositional case with the proposition О):

Это – объявление, о котором я тебе говорил.

Я тебе говорил об объявлении.

Combine the following:

Вчера приходили студенты. Я говорил тебе о студентах.
Вчера приходил студент. Я говорил тебе о студенте.

Вчера приходила студентка. Я говорил тебе о студентке.

**Adjacent object of preposition position (the Prepositional case with the proposition B):**

Это город, в котором мы были в прошлом году.

Мы были в городе в прошлом году.

Combine the following:

- Студенты пошли в кафе. Мы были в кафе раньше.
- Студенты пошли в поликлинику. Мы были в поликлинике раньше.
- Студенты пошли в ресторан. Мы были в ресторане раньше.

**Adjacent object of preposition position (the Accusative case with the proposition B):**

Это город, в который мы ездили в прошлом году.

Мы ездили в город в прошлом году.

Combine the following:

- Студенты пошли в кафе. Мы ходили в кафе раньше.
- Студенты пошли в поликлинику. Мы ходили в поликлинику раньше.
- Студенты пошли в ресторан. Мы ходили в ресторан раньше.
Day 2

Inserted object of preposition position (the Genitive case with the proposition ОТ):

Друг, от которого я получил письмо, приедет ко мне завтра.

Я получил письмо от друга.

Combine the following:

Студентка работает на почте. Мы получили письмо от студентки.

Студент работает на почте. Мы получили письмо от студента.

Студенты работают на почте. Мы получили письмо от студентов.

Inserted object of preposition position (the Genitive case with the proposition ДЛЯ):

Мой старший брат, для которого я купил стихи Пушкина, учится в России.

Я купил стихи Пушкина для моего старшего брата.

Combine the following:

Студентка любит звонить по телефону. Родители купили телефон для студентки.

Студенты любят звонить по телефону. Родители купили телефон для студентов.

Студент любит звонить по телефону. Родители купили телефон для студента.

Inserted object of preposition position (the Prepositional case with the proposition О):

Объявление, о котором я тебе говорил, лежит на кресле.

Я тебе говорила об объявлении.
Combine the following:

Студенты любят слушать музыку. Я говорил тебе о студентах.
Студент любит слушать музыку. Я говорил тебе о студенте.
Студентка любит слушать музыку. Я говорил тебе о студентке.

*Inserted object of preposition position (the Prepositional case with the proposition B):*

Город, в котором мы были в прошлом году, очень большой.
Мы были в прошлом году в городе.

Combine the following:

Кафе очень хорошее и недорогое. Мы были в кафе вчера.
Поликлиника очень хорошая. Мы были в поликлинике раньше.
Ресторан очень хороший и недорогой. Мы были в ресторане вчера.

*Inserted object of preposition position (the Accusative case with the proposition B):*

Город, в который мы ездили в прошлом году, очень большой.
Мы ездили в город в прошлом году.

Combine the following:

Кафе очень хорошее и недорогое. Мы ходили в кафе раньше.
Поликлиника очень хорошая. Мы ходили в поликлинику раньше.
Ресторан очень хороший и недорогой. Мы ходили в ресторан раньше.
Day 3

*Inserted object of preposition position (the Dative case with the proposition К):*

Школьник, к которому мы ходили вчера, хорошо играет на гитаре.

Мы ходили вчера к школьнику.

Combine the following:

Дедушка угостил нас пирожками. Мы ходили в гости к дедушке.

Бабушка угостила нас пирожками. Мы ходили в гости к бабушке.

Тётя и дядя угостили нас пирожками. Мы ходили в гости к ним.

Combine the following:

1. У моего друга много проблем. Я получил телеграмму от друга.
2. Мой друг ходил в спортивный зал. Он потерял в спортивном зале теннисную ракетку.
3. Учитель сказал, что у него будет плохая оценка. Он пришёл к учителю.
4. По электронной почте он получил письмо. В письме мама сообщала плохие новости.
5. Его сестра разбила машину. Он купил машину для сестры.

Combine the following:

Transparency # 16

1. Мой брат живёт в Лондоне. Я получил от него приглашение на свадьбу.
2. Я купил билет на самолёт. Моя мама говорила мне о самолёте.
3. Аэропорт Шереметьево – очень большой аэропорт. Я приехал в аэропорт Шереметьево.
4. В аэропорту я думал о моём братье. Я купил несколько сувениров для моего брата.
5. Мой брат и его невеста ждут меня. Я лечу в брату и его невесте.