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The Aspect Hypothesis and L2 Russian

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Introduction: Numerous studies have been conducted regarding the second language acquisition of tense-aspect morphology. A prevailing principle in this area is the Aspect Hypothesis, which predicts that learners are influenced by lexical aspect when applying tense- aspect markers (specifically, that learners will associate perfective/past markers with telic verbs and imperfective/past markers with atelic verbs). The Aspect Hypothesis has been widely tested in the acquisition of English, several Romance languages, Japanese, and Chinese. However, few studies have explored the second language acquisition of aspect in Slavic languages, which tend to have morphologically rich and complex tense-aspect systems. Additionally, few studies address the potential impact of task modality (for example, written vs. oral tasks) on the production of aspect.

Methods: The present study addresses these gaps by investigating how second language learners of Russian at varying proficiency levels use aspectual markers in the past tense when producing oral and written narratives. Data from written narratives ($N = 42$) and oral narratives ($N = 42$) were analyzed for lexical aspect and tense-aspect marking.

Results: The results indicate that the Aspect Hypothesis is supported to varying degrees depending on the task: the activity involving lower planning levels (oral narratives) was more supportive of the Aspect Hypothesis, compared to the written narrative task, which involves a higher level of planning. However, the results also show that the aspectual production of beginning-level Russian learners is not consistent with certain predictions of the Aspect Hypothesis.

Discussion: The study concludes by discussing the role of instruction and the L1 as possible explanations for this inconsistency.

KEYWORDS

default past tense marker, L2 Russian, perfective, imperfective, narrative, Aspect Hypothesis

1. Introduction

Numerous studies have been conducted regarding the second language (L2) acquisition of tense- aspect morphology. A prevailing principle in this area is the Aspect Hypothesis (Shirai, 1991; Andersen and Shirai, 1994; Robison, 1995; Bardovi-Harlig, 2000), which predicts that learners are influenced by lexical aspect when applying tense-aspect markers; namely, learners will associate perfective/past markers with telic verbs and imperfective/past markers with atelic verbs. The Aspect Hypothesis— henceforth AH—has been tested crosslinguistically, with a number of studies showing support for its predictions (e.g., Bardovi-Harlig and Reynolds, 1995 for English; Bardovi-Harlig and Bergström, 1996 for French, Shirai and Kurono, 1998 for Japanese; Cadierno, 2000 for Spanish, among others). However, Salaberry (1999, 2002) proposes the Default Past Tense Hypothesis (DPTH), which claims that learners in the beginning stages of acquisition prefer a default past tense form—the preterit for L2 Spanish—regardless of the verbs' lexical aspect. The primary purpose of the present study, therefore, is to determine whether L2 learners of Russian acquire aspect in accordance with the AH, or whether the DPTH can apply to beginning-level learners of L2 Russian. To address this question, the present study involves two

production tasks designed to elicit past tense verb forms from L2 learners of Russian, whose L1 is English. Study 1 analyzes production data from written narratives, while Study 2 uses data from oral narratives. Throughout our study, we use the term "task" in a broad sense, to include all activities that the participants completed, rather than "task" as discussed in the literature on Task-Based Language Teaching (TBLT). For a discussion on TBLT in Russian as a second language, see Nuss and Whitehead Martelle (2021).

Before describing the study in more detail, we first define aspect, describe the Russian aspectual system, and summarize research that has been done up to this point involving the L2 acquisition of aspect.

2. Tense and aspect

A widely accepted definition of aspect is provided by Comrie (1976, p. 3): "aspects are different ways of viewing the internal temporal constituency of a situation." This can be illustrated by the examples *he read the book* and *he was reading the book*. Both sentences are in the past tense but differ in aspect: the first presents the situation as a whole, whereas the second focuses on the internal structure of the situation (i.e., situation in progress). The **perfective** can be used to represent the first situation, and typically indicates a completed action or the resultative (such as *he read the book*, or *she wrote the letter*). The **imperfective**, on the other hand, often denotes situations related to the state (*I knew the answer*), habituality (*she wrote a letter every week*) and the progressive (*he was reading the book*).

2.1. Grammatical aspect and lexical aspect

The opposition between the perfective and imperfective can be encoded grammatically; in other words, the perfective and imperfective aspect can be realized through grammatical means, such as analytic constructions, inflectional or derivational morphology. For example, in English the progressive is formed by means of an analytic construction (form of auxiliary verb *be*, plus *–ing* ending on the main verb, as in *I am reading*). Encoding aspectual viewpoint such as the perfective and imperfective through grammatical means is called **grammatical aspect** (also **viewpoint aspect**).

Besides grammatical aspect, there are also semantic characteristics that define subclasses of verbs, which are based on the temporal characteristics of the situation that the verb (phrase) describes. This is called **lexical aspect** (also **situation aspect** or **inherent aspect**). Vendler (1957) was one of the first scholars to distinguish and categorize different types of situations expressed by verbs. The four verb types used in this study (States, Activities, Accomplishments, Achievements) are based on Vendler's classification, and their definitions are adapted from Smith (1997). However, it is first necessary to note that one of the distinctive features in defining lexical aspect is telicity, which characterizes a verb or verb phrase as having a natural final endpoint or goal (Smith, 1997, p. 3). Telic events involve a change of state resulting in a completed event or final endpoint such

as *make a chair*, *walk to the store*, *die*, while atelic situations are essentially processes that have no endpoint, or have an arbitrary endpoint, such as *sing*, *walk*, *love* (Smith, 1997, p. 19). The temporal semantic features of telicity, durativity and dynamicity can define Vendler's four lexical aspect classes (Mourelatos, 1981; Smith, 1997) as below.

The first verb type is State verbs, which describe stative (non-dynamic), durative and atelic situations (or qualities) that do not change, unless through external influence; for example, *know Russian*, *believe in the Tooth Fairy*. Second, Activities describe atelic, durative and dynamic situations that can include an ongoing unlimited process, or uncountable internal stages (where the endpoint of these situations is arbitrary); for example, *laugh, dance*. Next, accomplishments denote dynamic, telic, and durative situations that lead up to and result in a new state; for example, *build a new bridge*, *write a letter*. Lastly, Achievements are telic, punctual (i.e., non-durative), and dynamic events that typically result in a new state; *shatter*, *reach the summit*.

Many researchers have discussed how these four situation types reflect possible inherent semantic characteristics of verb phrases (e.g., Dowty, 1991; Verkuyl, 1993, 1999; Ramchand, 1997), as well as how these inherent features affect the acquisition of tense and aspect in various languages: in L1 acquisition (e.g., Antinucci and Miller, 1976 in Italian; Bloom et al., 1980 in English; see Andersen and Shirai, 1996 for review), in L2 acquisition (e.g., Bardovi-Harlig and Reynolds, 1995; Muñoz and Gilabert, 2011; Vraciu, 2013 in English; Cadierno, 2000 in Spanish; Giacalone Ramat, 2002 in Italian; Shirai and Kurono, 1998 in Japanese; see Bardovi-Harlig and Comajoan-Colomé, 2020 for a recent review), as well as in heritage language acquisition (e.g., Montrul, 2009 in Spanish; Pereltsvaig, 2005, Polinsky, 2008 in Russian).

2.2. Tense and aspect in Russian

In this section, we briefly illustrate how Russian encodes tense and aspect[1]. The interaction of tense and aspect in Russian is described by Borik (2006) as "aspectually constrained", in that the perfective aspect is seen in the past and future tenses, while the imperfective aspect is realized in past, present, and future tense forms (the perfective is not expressed in the present tense). With regard to the past tense, its marking is relatively straightforward and is encoded by the highly regular inflection *–l* as in (1) and (2). Aspectual marking in Russian is more complex compared to tense marking: the past tense marker *–l* is highly regular, while aspectual marking is less regular and can be represented with numerous

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1 For L2 learners of Russian, the aspectual system can be very difficult to acquire. One reason is that encoding grammatical aspect of the perfective-imperfective distinction in Russian occurs within a very complex morphological system. It is important to note that the Russian tense-aspect system is in reality more complex than presented here (for more detailed descriptions, see Timberlake, 2004; Wade, 2010; Zalizniak et al., 2015). We are presenting a rather simplified version of the tense-aspect system in Russian that is reflective of how learners tend to be introduced to Russian tense-aspect.

prefixes or other morphological devices—for example, the prefix in (2).

(1) Ja čita-l gazetu kaŽdyj den'.
    I read-Past.Masc.Sg. newspaper every day.
    "I read (used to read) the newspaper every day." (imperfective)

(2) Ja včera pro-čita-l gazetu.
    I yesterday Perf-read-Past.Masc.Sg. newspaper.
    "I read (finished reading) the newspaper yesterday." (perfective)

Regarding grammatical aspect (i.e., the perfective-imperfective distinction), when classroom learners are introduced to the past tense and aspect in Russian, they often first learn the imperfective as the basic, unmarked form, and then learn that the perfective form often contains a grammatical marker like a prefix. Commonly used beginning-level L2 Russian textbooks at the university level in the United States (i.e., *Live from Russia*, *Golosa*, *Nachalo*[2]) introduce the imperfective before the perfective; additionally, L2 learners are more likely to encounter the imperfective before the perfective because in Russian the imperfective is the unmarked form (e.g., dictionaries list the imperfective as the default citation form for verbs).

In order to form the past tense of imperfective verb forms in Russian, learners are taught to drop the infinitive stem (-*t'*), and replace it with the past tense suffix –*l* (or –*la*, -*lo*, -*li*, depending on the gender and number of the subject). For example:

(3) *Pisa-t' pis'mo* (to write a letter) ⇒ *pisa-l pis'mo* (he was writing a letter– imperfective)
    Write-INF write-Past.Sing.Masc

For perfective verb forms, on the other hand, in addition to the past tense ending –*l*, a type of affix (often a derivational prefix) is usually added to the verb to show that it is perfective:

(4) *Pisa-t'* (to write) ⇒ *na-pisa-l-a* (she wrote – perfective)
    Write-INF Perf-write-Past.Sing.Fem

What adds to the morphological complexity is that the perfective marker is not the same for every verb. There are numerous prefixes (as well as other types of affixation, and to a lesser degree, suppletive change to the verb's root) that can be used to show that a verb is perfective. For example, the prefix *na-* is used with the verb "to write" (along with other verbs); however, other prefixes like *s-*, *po-*, *u-*, *vy-*, *pro-* and *za-* can be added to other verbs to create the perfective form. Up to eighteen prefixes in Russian can be added to the imperfective form of the verb to make it perfective. Many of these prefixes can indicate perfectivity alone; that is, they can act as indicators that the verb is perfective and do not add any other semantic meaning to the verb, as is the case with example (4) above. However, these prefixes also have sublexical meanings when applied to other verbs; in other words, the addition of the prefix can change the meaning

of the verb. This is the case for all prefixes in Russian—for certain verbs they can serve as "pure" perfectivizers, while for other verbs, the same prefixes can include additional sublexical meanings. For example, the prefix *na-* in *na-pisat'* (to write—perfective) does not alter the meaning of "to write"; it is simply the perfectivizing aspectual form. However, when the same prefix is added to the verb *kroit'* (to cut out), the verb *na-kroit'* means (in addition to the perfective) 'to cut out a particular quantity'. The verb *na-kroit'* therefore does not mean simply "to cut out (perfective)", but conveys another meaning (a particular quantity) in addition to the perfective[3]. Another example to show how these prefixes can add additional meanings to the perfective is as follows: the prefix *s-* can be added to the verb *delat'* (to do/make—imperfective) to indicate the perfective: *s-delat'* (to do/make—perfective). However, when the same prefix is added to the verb *pisat'* (to write—imperfective), a completely different meaning arises: *s-pisat'* (to copy—perfective). This complex morphological system is a point of difficulty for non-native speakers (Slabakova, 2005).

In addition to the morphological difficulty, the semantic contrasts of the perfective and imperfective in Russian can lead to difficulty for learners whose L1 does not make the same semantic distinctions (Izquierdo and Collins, 2008).

3. L2 Acquisition of tense and aspect

Several early studies on the L2 acquisition of aspect involved the developmental sequences of aspectual markers. In particular, Andersen (1991) examined the verbal production of two English-speaking untutored adolescent learners of Spanish in a naturalistic setting and suggested the following developmental sequence for learners of Spanish as L2: (1) the past perfective emerges before the past imperfective, (2) the past perfective emerges first with achievements and then with accomplishments, later spreading to activities and finally to states, and (3) the past imperfective appears first with states and then spreads to activities, and eventually to accomplishments and finally to achievements. These observations of the developmental sequence have led to a prototype account of the acquisition of tense-aspect morphology (Andersen and Shirai, 1994, 1996; Shirai and Andersen, 1995). Subsequent studies (for example, a study by Housen, 1994 which investigated an English-speaking classroom learner of Dutch) have reported conclusions that coincide with Andersen's findings. Andersen's account therefore predicts that learners are sensitive to lexical aspect when they apply grammatical tense-aspect markers to verbs; namely, language learners tend to apply certain tense-aspect markers to verbs of a certain lexical aspect[4].

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3   Moreover, it is important to note that these perfective verbs undergo a process of derived imperfectivization through suffixation (the suffix -*yva*), which adds to the morphological complexity of the Russian aspectual system.

4   It should be noted here that in addition to lexical aspect, the discourse notion of grounding [foreground vs. background) has been important in L2 learners' tense-aspect marking, with perfective marking associated with foreground, and imperfective marking with background (Bardovi-Harlig, 1992, 1998, 2000; Housen, 1994). The present study does not code these notions and therefore it is beyond the scope of this paper.

3.1. The Aspect Hypothesis

Along these lines, the Aspect Hypothesis (AH) was formulated by Shirai (1991, p. 9–10), and further developed by Andersen and Shirai (1994), Robison (1995), and Bardovi-Harlig (2000). The following generalizations and predictions of this hypothesis are proposed to be universals in L1 and L2 acquisition (Li and Shirai, 2000, p. 50):

(1) Learners use (perfective) past marking on achievement or accomplishment verbs, eventually extending use to activity and state verbs.
(2) In languages that encode the perfective-imperfective distinction morphologically, imperfective past appears later than perfective past, and imperfect past marking emerges with stative and activity (i.e., atelic) verbs, and then extends to accomplishment and achievement (i.e., telic) verbs.
(3) In languages that have progressive aspect, progressive marking begins with activity verbs, and then extends to accomplishment/achievement verbs.
(4) Progressive marking is rarely incorrectly overextended to stative verbs (in L1 acquisition).

The present study focuses on the first and second of these predictions since Russian does not have grammatical marking of progressive aspect.

In essence, the AH involves two types of predictions:

- **associative prediction** (that accomplishments and achievements tend to occur with perfective markers; states and activities with imperfective markers); and
- **developmental prediction** (that the perfective past is produced before the imperfective past, and that association of lexical aspect with grammatical aspect/tense is stronger at the beginning stage).

To elaborate on the last point, the developmental prediction proposes that the aspectual production of learners initially has a prototypical distribution (use of accomplishments and achievements with the perfective past, states and activities with the imperfective past), and then, as proficiency levels increase, the distribution becomes less prototypical (extending use of the imperfective to accomplishments and achievements, the perfective to activities and states). The AH has generated a great deal of subsequent research, and the results of many of these studies (such as Bardovi-Harlig and Reynolds, 1995; Collins, 2002 in English; Comajoan, 2006 in Spanish; Giacalone Ramat, 2002 in Italian; Shirai and Kurono, 1998; Nishi, 2008 in Japanese) in the acquisition of both Indo-European and non-Indo-European languages appear to support this hypothesis to varying degrees.

3.2. The default past tense hypothesis

In a study on English-speaking classroom learners of Spanish as a foreign language, Salaberry (1999) presents results that conflict with the AH. The college students at four levels of proficiency were asked to provide two different oral narratives 2 months apart, thus creating a quasi-longitudinal study representing eight levels of Spanish proficiency. The results of the study revealed that the lowest-level learners used a single marker (the preterit, or perfective past) to express the past tense, regardless of the verbs' lexical aspect. One possible reason for this is that the students did not have enough experience with any other past tense markers at that point in their learning (as suggested by Shirai, 1997, 2009; see also Bonilla, 2013). Salaberry (1999, p. 167) argues, however, that these learners were capable of marking the past (imperfect) with some verb phrases, but that they showed a preference for a single form (the preterit). The results from Salaberry (1999) contradict the associative predictions of the AH: the lower-level learners did not appear to show a preference for using the preterit (perfective past) with accomplishments and achievements, rather, the perfective past was used more flexibly across all lexical aspect classes. The learners at higher levels of proficiency, on the other hand, did show a correlation between past tense morphology and the inherent semantic characteristics of the verbs, which contradicts the developmental prediction of the AH that the association of lexical aspect with grammatical aspect/tense is stronger at the beginning stage. The findings from Salaberry (1999) thus suggest that these students initially seem to have a default past tense marker that can be used with verbs of any lexical aspect at the lower stages of L2 learning, and that they become much more sensitive to lexical aspect when applying tense-aspect markers as their proficiency level increases (i.e., the reverse of what is predicted by the AH).

There are studies that have supported the DPTH. For example, Wiberg (1996) found that among 24 Swedish-Italian bilingual children (ages 8–17) living in Sweden, lower level Italian learners prefer a default past participle form regardless of lexical aspect in Italian, their non-dominant language. Salaberry (2000, 2002) found further support of the DPTH (contradicting developmental and associative predictions of the AH) in studies that involves editing and cloze tasks in L2 Spanish as a foreign language (L1 English). Moreover, another study of L2 acquisition of Spanish tense-aspect morphology (Domínguez et al., 2013) examined the validity of the AH in L2 Spanish by incorporating both corpus and experimental data collected from learners of Spanish as a foreign language in the UK. Domínguez et al. concluded that the L2 distribution of preterit and imperfect was not congruent with the AH, and that dynamicity, rather than telicity, determines the development of the preterit and the imperfect.

Shirai (2004) outlines several factors (i.e., input frequency, L1 influence, and individual differences) to account for why learners may associate lexical aspect with tense-aspect markers on verbs, and for why the results of some studies (such as Salaberry, 1999) appear to deviate from the predictions of the AH. We propose task as an additional factor (e.g., Bonilla, 2013; Domínguez et al., 2013), and the present study specifically manipulates this variable.

The present study analyzes data from two tasks that differ in modality (oral vs. written), which impose different planning times (and thus different degrees of explicit knowledge) required in production. In relation to aspectual production and task, previous studies that employed tasks that allow learners planning time are generally supportive of the AH (Ramsay, 1990; Hasbun, 1995),

while studies that involve very little to no planning time support either the AH (Camps, 2002, 2005) or the DPTH (Salaberry, 1999, 2002). The most relevant in this respect is a study by Bardovi-Harlig (1998), which directly compared oral and written narratives of intermediate-level classroom L2 learners of English to assess the effect of task modality (Gilabert et al., 2016; Zalbidea, 2021). The results supported the associative predictions of the AH in both modalities. However, the oral data showed a much clearer progression of using past tense markers with achievements, then accomplishments, then activities (Bardovi-Harlig, 1998, p. 484–488), which is supportive of the developmental predictions of the AH. By comparing oral and written narratives, which differ in the degree of online planning (Ellis and Yuan, 2004), the present study examines whether a change in task modality (oral vs. written) affects the degree to which the associative and developmental predictions of the AH may be supported.

3.3. Acquisition of Russian aspect

Most studies involving the acquisition of Russian aspect are L1 acquisition studies, and although many of these studies do not directly test the AH, the results are mostly consistent with the AH. For example, Stoll (1998) concluded that Aktionsart (lexical aspect) was the main factor in how 2- to 6-year old children develop and comprehend the Russian aspectual system, and that telic verbs in the perfective past seem to be more accessible in the earlier stages of acquisition. Additionally, Bar-Shalom (2002) observed that the children (age 1;6–2;11) used the perfective more than the imperfective in the past tense, and that the earliest past tense utterances tended to be achievements with perfective aspect. In another production study (Gagarina, 2004), there seems to be further evidence for the AH. In this study, the speech of 4 monolingual Russian children (periodically recorded from the onset of speech until about the age of three) was analyzed, and the results indicate that in the past tense, the children primarily used the perfective; moreover, the choice of the perfective and imperfective aspect is clearly dependent on the inherent semantic characteristics of the verbs, i.e., the perfective is used more frequently to denote telic situations (p. 55). Gagarina therefore concludes that because lexical meaning and aspect are interconnected, lexical meaning is a crucial part of learning aspect. The observations from the above studies are consistent with both the associative and developmental predictions of the AH.

In addition to L1 studies, there has been some research examining aspectual usage among heritage learners of Russian (e.g., Pereltsvaig, 2005; Polinsky, 2008; Laleko, 2010). In support of the AH, Pereltsvaig's (2005) study of heritage speakers of Russian observed that aspectual marking is encoded with the verbal root itself; that is, a telic verb is marked with perfective morphology, while an atelic verb tends to be marked with imperfective morphology. Additionally, Laleko (2010) investigated Heritage Russian forms by means of a sentence completion task and found that heritage Russian speakers tended to associate past tense forms with telic verbs, and tended to prefer present tense forms overall in their production, suggesting a prototype account (Shirai and Andersen, 1995; Andersen and Shirai, 1996), which

argues that learners start the use of tense-aspect morphology with the prototype of each form (i.e., past-perfective form starts with telic verbs; imperfective form with atelic verbs; and progressive form with activity verbs). In sum, an overall examination of the patterns of Heritage Russian speech has been consistent with what is predicted by the AH and the prototype account.

In contrast, very few studies have been conducted on the L2 acquisition of Russian aspect, and most of them do not directly test the AH. Two studies, Slabakova (2005) and Nossalik (2008), involving a comprehension task and grammaticality judgment task, respectively, investigated the L2 comprehension of grammatical aspect. They found that L2 learners generally understand that verbs with perfective markers are incompatible with atelic situations, and that verbs with a perfective marker (such as a prefix) indicate telicity. The results of these studies are consistent with the associative predictions of AH.

One study that directly tested the AH in L2 Russian was Leary (2000). Forty L1 English participants at varying levels of proficiency (Levels 1–4, with each level corresponding to year of study) at an American university provided a written narrative in Russian after watching a silent film clip. The results support the AH, in that the participants tended to use the imperfective past with states, whereas achievements and accomplishments were marked with the perfective past. Overall, the results of Leary's study suggest that learners in their second through fourth year of study choose the imperfective or perfective form based on the verb's lexical aspectual class. Another result of this study was that the Level 1 (i.e., first-year) learners showed little grasp of the past tense: these learners produced a total of ten verbs, not one of which was in the past tense. Because there were only three Level 1 participants in this study, it is difficult to draw any conclusions as to how lower-level learners of L2 Russian would assign the past tense.

There is much yet to learn about the L2 acquisition of Russian aspect. Although Russian is a well documented language, and Russian has been the focal point of many linguistic analyses of aspect (Comrie, 1976), there has been little research conducted on how L2 learners acquire, learn, or produce aspect in Russian. Many L1 and L2 acquisition studies have tested the Aspect Hypothesis in a variety of target languages, and the present study adds to that body of literature by analyzing the degree to which learners of varying levels of L2 proficiency in Russian are sensitive to lexical aspect when applying grammatical markers of tense-aspect, and by investigating the effect of task modality (oral vs. written).

3.4. The present study

The present study intends to address whether the L2 acquisition of Russian aspect in a classroom setting supports or contradicts the associative and developmental predictions of the AH. Our question related to the developmental prediction of the AH involves whether the lower-level L2 learners produce the imperfective or the perfective first. Because of the instructional sequence of aspectual forms in classroom L2 Russian (imperfective before perfective), and because of the morphological complexity of Russian verbs (from the standpoint of the lower-level L2 learner, the imperfective is morphologically simpler than the perfective), it is possible that the

imperfective will act as a default past tense form for beginning-level L2 Russian learners.

This study will also test the associative predictions of the AH (that the imperfective will be more restricted to states and activities, and the perfective with achievements and accomplishments). If beginning-level learners use the imperfective as a default, then we would expect to see the imperfective distributed across lexical classes, as opposed to a stronger association between imperfective and states/activities and perfective with accomplishments/achievements.

3.5. Research questions

This study addresses the following questions:

1) How do L2 learners of Russian at different levels of proficiency assign aspectual markers in the past tense? Do the learners conform to the predictions proposed by the AH (producing the perfective before the imperfective in the past, and associating the perfective with accomplishments/achievements and imperfective with states/activities)? Or, are the data more consistent with the DPTH (L2 learners producing a default form regardless of lexical aspect)?

   - Our hypothesis, based on instructional sequence of aspectual forms in instructional L2 Russian, and its morphological complexity, is that the imperfective will appear as a default form for beginning-level learners of L2 Russian, and we would expect to see the imperfective distributed across all lexical classes.

2) Do different modalities in production affect the degree to which the AH is supported? In other words, is aspectual production in oral narratives more consistent with the AH compared to written narratives?

   - We hypothesize that the results will show a similar pattern found in Bardovi-Harlig (1998); that in comparison with the written narratives, the data from oral narratives will be more congruent with the developmental predictions of the AH, in that they will show a clearer progression of using perfective markers with achievements and accomplishments, and then with activities (Bardovi-Harlig, 1998, p. 484–488).

4. Study 1: written narratives

4.1. Participants

A total of 42 L2 learners of Russian (age range: 18–42) participated in the study. The learners were native speakers of English enrolled in Russian classes (first–fourth year) at two major universities in the Eastern United States. They were learning Russian enrolled in an academic yearlong program or a summer intensive program[5] (29 in the yearlong program and 13 in the

intensive program). The participants were all classroom learners of Russian, exposed to a variety of instructors (both native and non-native speakers of Russian) and instructional techniques, such as form-focused and meaning focused approaches. Most of the learners have had prior language learning experience before taking Russian (such as high school Spanish or French). The L2 learners were recruited through the Russian courses they were enrolled in and each received a small monetary reward for their participation.

The L2 learners were placed into three proficiency groups [Beginning ($n = 15$), Intermediate ($n = 14$), and Advanced ($n = 13$)] based on a written proficiency test that incorporated a variety of lexical and grammatical items. This exam was comprised of select items from the lexical and grammatical sections of sample Tests of Russian as a Foreign Language – TORFL[6] (the Russian equivalent of the TOEFL), which is a state-sponsored exam used in Russia to determine proficiency level.

The concept of aspect for this group of learners was introduced toward the end of the first semester or in the middle of the second semester, and that each learner had at least one full semester or year (or the equivalent) of learning Russian before participating in this experiment. Therefore, all the participants had been introduced to aspect, and had some practice with distinguishing the perfective from the imperfective.

In addition to the L2 learners, eight native Russian speakers (age range: 22–45) participated in the study as a control group. These participants come from three different Russian-speaking countries (most from Russia, one each from Ukraine and Belarus) and various professional backgrounds (university students, instructors, businesspersons, etc.). The participants either self-identified as native Russian speakers, or, in the case of those speakers who were bilingual, identified Russian as their dominant language.

4.2. Materials and procedure

The procedure of the study was as follows: the L2 learners first filled out a brief background questionnaire to provide basic information such as date of birth, gender, level of Russian study, and other languages studied (1–2 min). They next completed the written proficiency exam, which was a timed test (15 min), composed of 30 multiple-choice items. After completing the proficiency test, the participants twice watched a brief excerpt (∼8 min) from the silent film *Modern Times*. Different excerpts of this film have been used in several previous studies (e.g., Bardovi-Harlig and Bergström, 1996; Bardovi-Harlig, 1998; Salaberry, 1999; Leary, 2000) to elicit tense/aspect forms in the past tense. After the first viewing, the learners were given the opportunity to ask questions about the video or the upcoming task[7]. After watching

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5   The intensive program is an 8- or 10-week program, where the learners receive six hours of instruction in the target language every weekday.

6   The test items were chosen from the following sample TORFLs: The Russian Federation Ministry of General and Professional Education (1999).

7   The learners were encouraged to use what they know about the Russian language to describe what happened in the film, but were told that if they were having great difficulty retrieving a lexical item, they could ask the researcher for help, although this rarely happened (only a few participants asked for vocabulary items, which were primarily nouns like "thief" or "barrel", not verbs).

the video clip for the second time, the participants wrote in Russian what happened in the video. To elicit the past tense in the narratives, the learners were asked to start their narratives with the phrases *OdnaŽdy* (Once upon a time) or *Davnym-davno* (A long time ago). They were not given a time limit, but most took between 20 and 30 min to write the narratives. The entire procedure occurred outside of class time and took approximately 1 h.

The native Russian speakers completed a background questionnaire, watched the video clip, and then wrote narratives in their native language. They were given the same cues as the L2 learners to elicit the past tense in the narratives. The entire procedure for the native Russian speakers took 30–45 min.

4.3. Coding procedures

Each of the participants' narratives was examined, with each predicate containing a lexical verb in the past tense (i.e., inflected for the past tense form –*l*) coded for lexical and grammatical aspect. Certain verbal expressions were excluded from classification. The copula (*byt'*) was not included because of difficulties in comparing it with lexical verbs, as discussed in Shirai and Kurono (1998, p. 269–271) and Shirai (2004, p. 95). Additionally, non-finite forms (certain participles) were excluded because in Russian these expressions act more like adjectives or adverbs and do not contain the full verbal morphology that is possible with lexical verbs. Also, impersonal constructions not containing a verb such as *emu nuŽna rabota* "he needs work" (or, more literally, "work is needed for him") were omitted from classification (and any constructions such as these that contain an infinitive, i.e., *emu nado rabotat'* "he needs to work" were omitted because they were produced as non-past forms). Misspelled and other erroneous verb forms were excluded from analysis if the coder was unable to interpret the meaning, although there were very few instances of misspellings to this degree (10 instances out of a total of 943 written verb forms produced by the learners).

The verb phrases were first classified as being imperfective or perfective, and then were coded as one of Vendler's (1957) four lexical-aspect types: State, Activity, Accomplishment, or Achievement.

The coding procedures for the Russian data are outlined in Appendix A. To develop operational tests for Russian, a number of sources were consulted, including the operational tests that have been used in previous studies that are applicable to Russian, such as Shirai (1991, English), Robison (1995, English), Weist et al. (1984, p. 352, Polish), Smith (1997, p. 227–261, Russian), and Stoll (1998, Russian). The verb tokens were coded by a near-native speaker of Russian (L1 English), and whenever difficulties arose in classification, native speakers of Russian were consulted for their intuitions. Appendix B provides a list of sample verb phrase tokens that were commonly used in the narratives and classified according to lexical aspect.

4.4. Results and discussion

Table 1 is a summary of results illustrating the distribution of past tense verbs between grammatical aspect (the imperfective and the perfective) and lexical aspect (State, Activity, Accomplishment,

Achievement) for each proficiency level. Table 1 shows the mean frequency of use for each past tense verb produced (calculated by averaging the number of tokens of lexical-grammatical forms for each proficiency level). For example, 1.80 for State used with Imperfective past was calculated based on the total tokens of imperfective-state verbs used by the beginning-level students (27), divided by the number of these students (15). Additionally, Appendix C shows both the total word counts in written narratives, as well as the raw count of past tense verbs for each individual participant to illustrate the proportion of verb forms in the past tense.

Figure 1 (for perfective aspect) and Figure 2 (for imperfective aspect) show how the proficiency levels and lexical aspect interact in their use of grammatical aspect.

Several patterns can be seen in Figures 1, 2. First, the distribution line of the perfective (Figure 1) has a similar shape across all proficiency levels, including native Russian speakers: overall, the perfective is used very rarely with Activities or States, suggesting that learners at all levels tend not to associate Activities and States with the perfective.

The distribution lines of the imperfective (Figure 2) also have a similar shape across proficiency levels. Learners at all levels appear to understand that activities and states are more compatible with the imperfective, with the average tokens of imperfective states ranging from 1.8 to 2.69 and imperfective activities from 3.53 to 3.92, while the average tokens of perfective activities ranged from 0.0 to 0.68 (with only advanced students producing perfective activities). However, beginning-level learners display the highest use of imperfective in accomplishments and achievements. In fact, the distribution of accomplishment verbs among beginners shows that the imperfective is used more frequently (1.53 average tokens) with accomplishments than the perfective is (1.13 average tokens) (see Table 1). Although the overall distribution (particularly with the perfective) appears to be congruent to the AH, there are three observations that are not consistent with the AH.

The first is that the progression of how the imperfective is distributed as proficiency levels increase contradicts the developmental prediction of the AH: beginners display a less prototypical distribution (i.e., non-prototypical uses of the imperfective are highest with beginners) while more advanced learners adhere to a more prototypical distribution.

Secondly, lower-level learners (beginning and intermediate levels) show an overall preference for using the imperfective more than the perfective in their narratives, (total mean usage for beginners: 8.13 past imperfective, 6.2 past perfective; total mean usage for intermediate students: 8.41 past imperfective, 7.14 past perfective), indicating that the imperfective is preferred in the beginning stages, which contradicts the AH's claim 2 that learners produce the perfective past before the imperfective past. Our third observation is that beginning-level learners of L2 Russian may not take lexical aspect into consideration; that is, they use the imperfective with all lexical aspect types more evenly, suggesting that these learners may initially view the imperfective as a past tense default form, contradicting the association prediction of the AH.
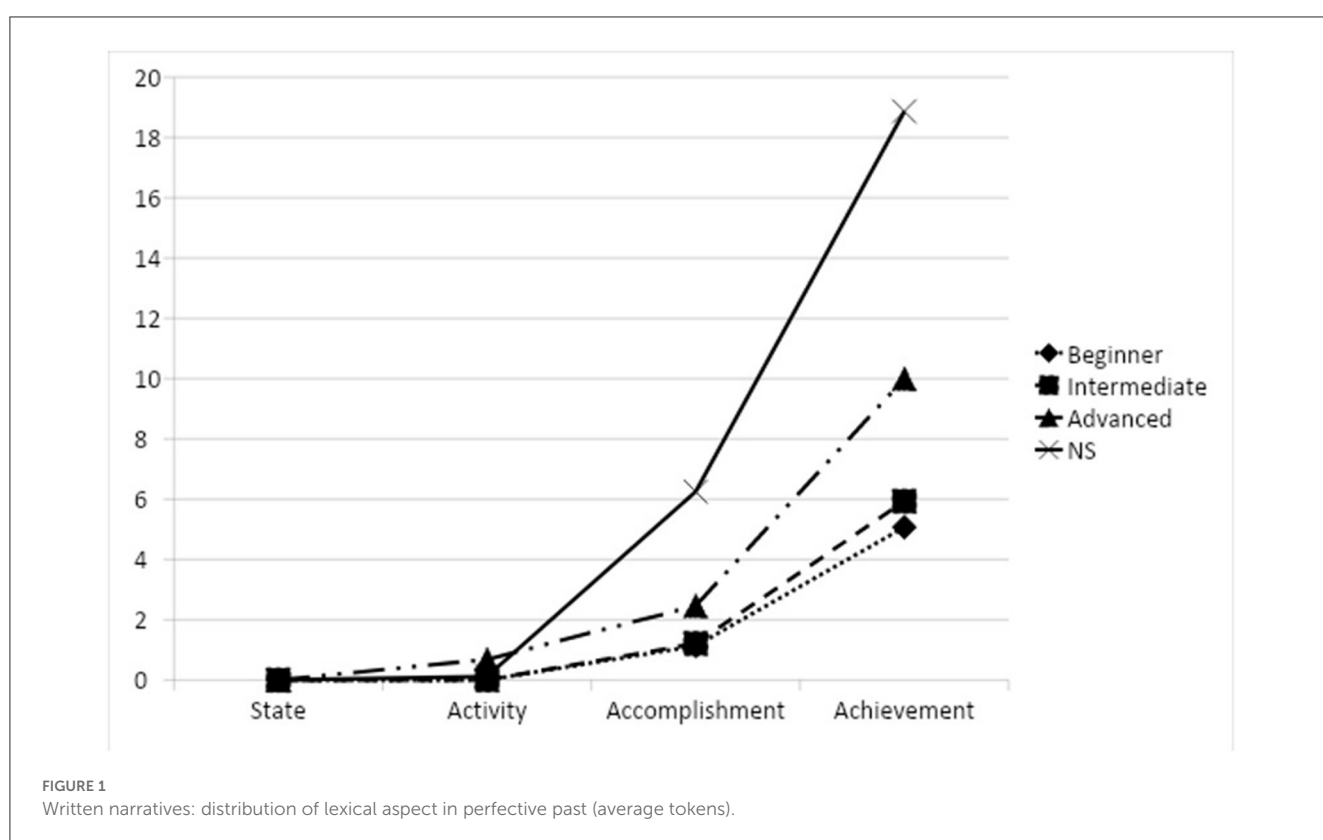
Therefore, in the above analysis of Study 1's data, the following generalizations can be made:

1) L2 learners of Russian generally appear to be sensitive to the lexical aspect of verbs when assigning grammatical aspect (imperfective or perfective) to verbs in the past tense, and

TABLE 1 Mean frequency of past tense forms for written narratives.

Level	Imperfective				Perfective			
	State	Activity	Accomp.	Achiev.	State	Activity	Accomp.	Achiev.
Beginning (n = 15)	1.80	3.53	1.53	1.27	0	0	1.13	5.07
	(2.04)	(2.56)	(1.41)	(1.03)	(0)	(0)	(1.30)	(2.21)
Intermediate (n = 14)	2.42	3.71	1.14	1.14	0	0	1.21	5.93
	(2.10)	(2.30)	(0.86)	(1.35)	(0)	(0)	(1.05)	(3.19)
Advanced (n = 13)	2.69	3.92	1.00	0.61	0	0.68	2.46	10.00
	(2.98)	(3.04)	(1.00)	(0.77)	(0)	(2.80)	(1.76)	(5.84)
NS	1.25	4.12	0.25	0.62	0	0.12	6.25	18.87
(n = 8)	(1.03)	(2.03)	(0.46)	(0.74)	(0)	(0.35)	(3.69)	(7.83)

( ) = SD.

FIGURE 1
Written narratives: distribution of lexical aspect in perfective past (average tokens).

the degree of this sensitivity approaches native-like levels as proficiency increases; however,

2) The lower-level learners' more homogenous distribution of imperfective past tense forms indicates that learners at the beginning level are not as sensitive as those in the more proficient levels to the verbs' lexical aspect, suggesting that the imperfective is initially used as a "default" form in the past tense.

Next, we examine the effects of task modality, i.e., test whether data from oral narratives will be more compatible with the AH, and determine whether different modalities can affect the degree to which the AH or DPTH is supported.
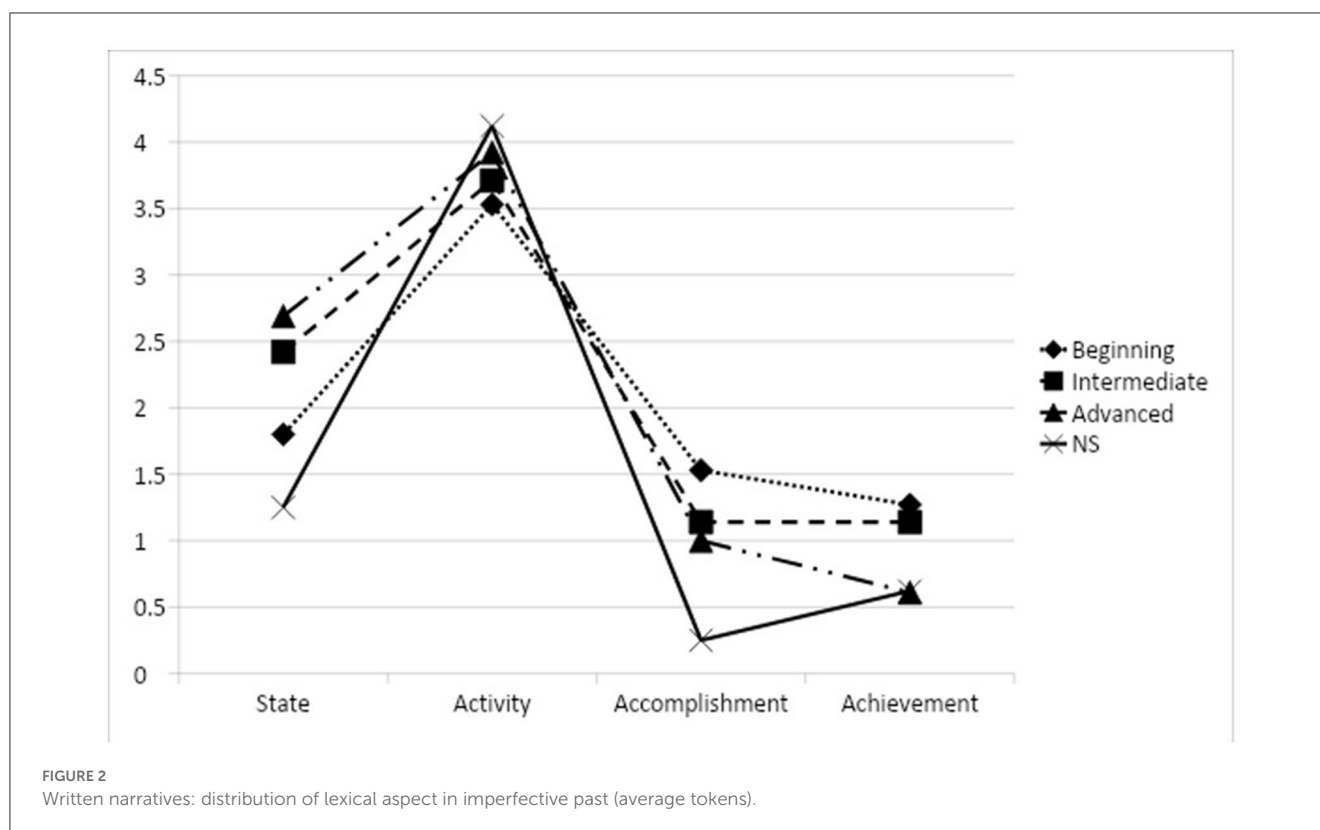
5. Study 2: oral narratives

5.1. Participants

A total of 42 L2 learners of Russian (age range: 18–43) participated in the study[8]. The learners' native language was English, and were university students enrolled in Russian classes (first–fourth year) at the same two universities as in Study

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8 There was very little overlap in participants from Study 1 to Study 2 – only three participants took part in both studies, and all three tested in different proficiency levels due to the time lag in recruiting (1 year) between the studies.

FIGURE 2
Written narratives: distribution of lexical aspect in imperfective past (average tokens).

1. They were enrolled in an academic yearlong program or a summer intensive program (23 in the yearlong program, and 19 in the intensive program). As in Study 1, the learners were classroom learners of Russian and were exposed to a variety of classroom experiences; additionally, many of the learners had previous language learning experience before taking Russian. They were placed into three proficiency groups [Beginning ($n = 13$), Intermediate ($n = 16$), and Advanced ($n = 13$)] based on the same proficiency test used in Study 1.

In addition to the L2 learners, seven native Russian speakers (different from Study 1, age range: 19–45) participated in the study as a control group. They came from Russia and Kazakhstan and were primarily university students and educators.

5.2. Materials and procedure

The procedure of Study 2 followed the exact same format as Study 1, except that the students provided oral narrations in Russian on what happened in the video. Their oral narratives were recorded via audio recorder either in a computer lab, or on the researcher's computer. The students were asked to start their narratives with the phrases *OdnaŽdy* (Once upon a time) or *Davnym-davno* (A long time ago), as in Study 1. The learners were not given a time limit to say their narratives, but most took between 3 and 8 min to complete their narratives. The entire procedure for the L2 learners took ~45 min.

The native speakers completed a background questionnaire, watched the video clip, and then produced oral narratives. Each

narrative was recorded on the researcher's computer. They were given the same cues as the L2 learners. The entire procedure for the native Russian speakers took ~30 min.

5.3. Coding procedures

Each of the participants' narratives was transcribed and examined, with each verb phrase in the past tense coded for lexical and grammatical aspect. The coding procedure for Study 2 is identical to what is described for Study 1.

5.4. Results and discussion

Table 2 below shows the mean usage of past tense verbs by lexical aspect in both the imperfective and perfective. Additionally, Appendix D provides both the total word counts in the oral narratives and the raw count of each participant's past tense verb production in order to illustrate the proportion of verb forms in the past tense.

The information from Table 2 will be illustrated below in two figures. Figure 3 (perfective) and Figure 4 (imperfective) show how the proficiency levels and lexical aspect interact in their use of grammatical aspect.

Several patterns can be seen in Figures 3, 4. First, the distribution line of the perfective (Figure 3) has a similar shape across all proficiency levels: overall, the perfective is used more rarely with Activities or States, suggesting that learners at all levels,

TABLE 2 Mean frequency of past tense forms for oral narratives.

Level	Imperfective				Perfective			
	State	Activity	Accomp.	Achiev.	State	Activity	Accomp.	Achiev.
Beginning (*n* = 13)	2.23	3.62	0.38	0.46	0	0.08	0.38	4.00
	(3.19)	(3.93)	(1.12)	(0.97)	(0)	(0.28)	(0.65)	(3.46)
Intermediate (*n* = 16)	3.69	4.88	1.81	0.44	0	0.06	1.00	5.88
	(2.41)	(2.25)	(1.80)	(0.89)	(0)	(0.25)	(1.37)	(3.98)
Advanced (*n* = 13)	2.38	3.69	1.46	1.54	0	0.38	2.31	10.31
	(2.29)	(2.29)	(1.33)	(1.61)	(0)	(0.65)	(1.75)	(5.75)
NS (*n* = 7)	2.43	4.71	1.43	0.29	0	0.71	6.71	22.86
	(2.07)	(2.29)	(1.62)	(0.49)	(0)	(0.95)	(4.57)	(10.07)

( ) = SD.

FIGURE 3
Oral narratives: distribution of lexical aspect in perfective past (average tokens).
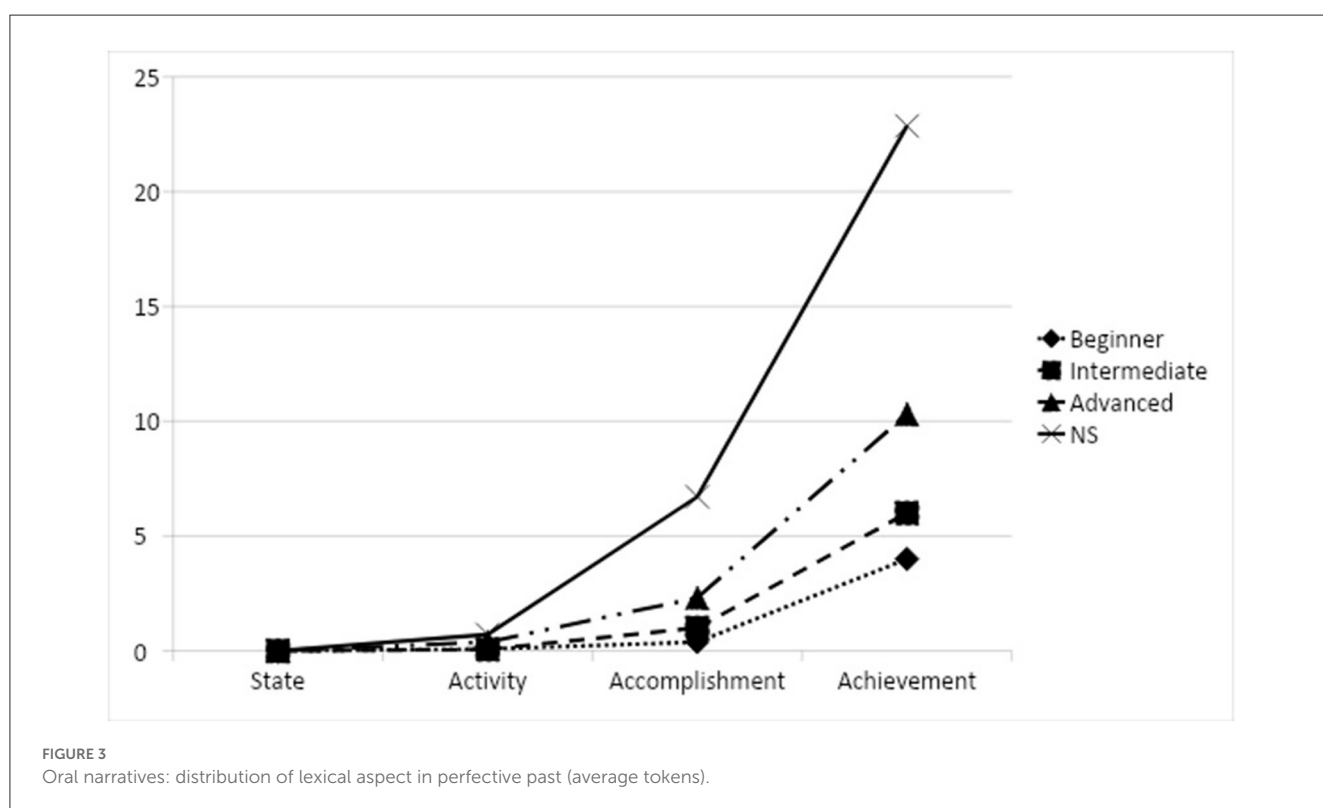
like the Russian native speakers, appear to know that Activities and States are less compatible with the perfective past. These patterns are consistent with the results from the written narratives.

Another trend shown in the above figures is that the distribution lines of the imperfective (Figure 4) also have a similar shape across proficiency levels. Learners at all levels appear to understand that activities and states are more compatible with the imperfective, but what is interesting is the rate of use in accomplishments and achievements among beginning-level learners. In the oral narratives (Table 2), beginners have the lowest overall use of telic verbs in the imperfective (0.38 for Accomplishments and 0.46 for Achievements), while in the written narratives (Table 1) beginners have the highest overall use of telic verbs in the imperfective (1.53 for Accomplishments and 1.27

for Achievements). Because of this, the overall distribution of the imperfective past in the oral narratives is more congruent with the AH: in the written narratives beginners display a less prototypical distribution (with the more advanced learners adhering to a more prototypical distribution), but the distribution of the imperfective past among beginners in the oral narratives starts out more prototypical and becomes less prototypical as proficiency levels increase. As a result, the overall distribution in oral narratives appears to show more support for the AH than the distribution in written narratives. In the above analysis of the data in oral and written tasks, the following generalizations can be made with regard to the study's research questions:

(1) Beginning-level L2 learners of Russian in the oral task appear to perform more like the higher-level learners, in that they
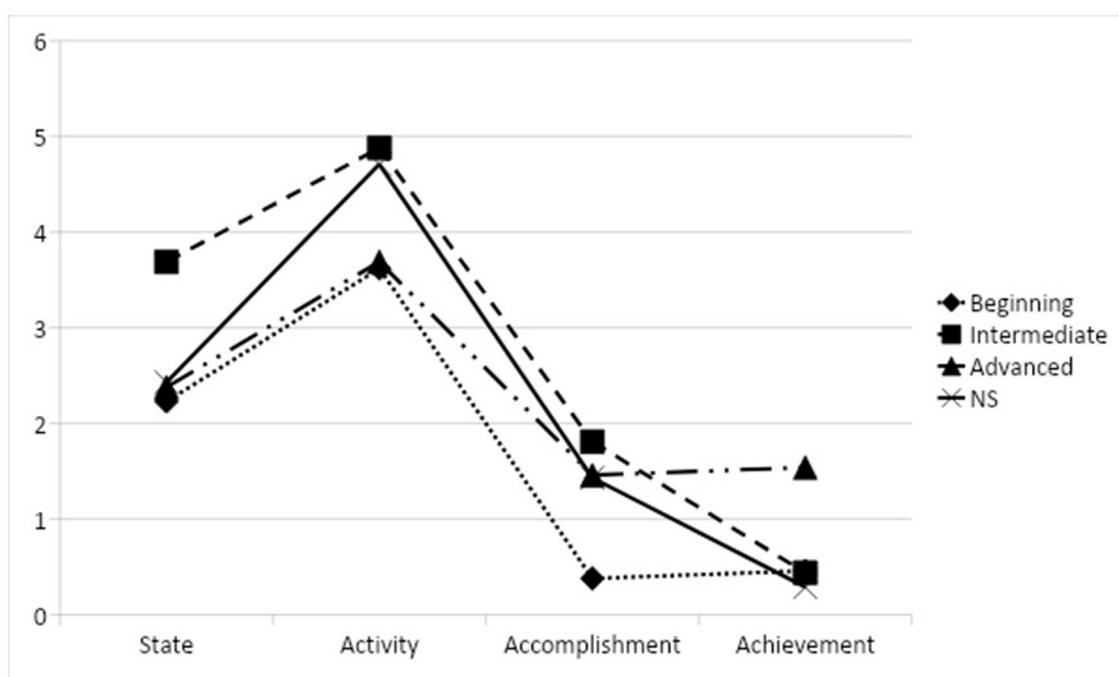
FIGURE 4
Oral narratives: distribution of lexical aspect in imperfective past (average tokens).

seem to be more sensitive to the lexical aspect of verbs when assigning grammatical aspect (imperfective or perfective) to verbs in the past tense. As a result, the prediction that aspectual production by L2 learners will resemble the DPTH is not completely supported because the beginning-level learners produce a past tense distribution that is more prototypical of what the AH (rather than the DPTH) predicts, and therefore,

(2) It appears that different task modalities (i.e., oral vs. written) do have an effect on the degree to which the AH is supported. The distribution of aspectual markers in the oral narratives is more consistent with the AH than in the written narratives, and these results are similar to what was found in Bardovi-Harlig (1998). As a result, the findings from Study 2 lend support to the idea that data from oral narratives, in comparison with written data, is more consistent with the AH.

Although the results from the oral task are more consistent with the AH, we still see an inconsistency with what was proposed by Andersen (1991), and Predictions 1 and 2 of the Aspect Hypothesis (AH). Andersen (1991) and Prediction 2 of the AH proposed that L2 learners acquire the past perfective before the past imperfective, but the results of Study 2 (as in Study 1) do not support this prediction: Beginners and Intermediate learners still use the imperfective past more than the Advanced learners and Russian native speakers, which suggests that the imperfective past is acquired earlier than the perfective past. Thus, while the results of Study 2 show stronger support for the associative predictions of the AH, lower-level learners still prefer the use of the imperfective in their narratives, whether oral or written. This preference, an indication that the imperfective is acquired before the perfective, goes against the developmental prediction (in particular Prediction 2) of the AH.

A question that needs to be asked, therefore, is what potential factors can account for differences in aspectual production between the different proficiency levels? In this study, task modality is proposed as one factor, and in comparing Studies 1 and 2, we see that the distribution of lexical and grammatical aspect in oral narratives is generally more consistent with the AH, but that it does not account for the lower-level learners' preference in using the imperfective over the perfective. We will turn to this question.

6. General discussion

Studies 1 (written narrative) and 2 (oral narrative) have produced a number of important results with regard to the use of tense-aspect morphology in L2 Russian. Study 1 showed that learners at all levels are sensitive to lexical aspect in the written production of tense-aspect markers, except for the beginning-level learners, who are only partially sensitive, applying imperfective past to all four lexical aspect types. Study 2 (oral narratives) showed similar patterns to Study 1, except that beginners showed a greater sensitivity to lexical aspect when applying tense-aspect markers, restricting imperfective marking mostly to atelic verbs (87.3% in spoken narratives as opposed to 65.5% in written narratives). In both studies, however, beginners (and intermediate-level learners to some degree) showed a very strong preference in producing the imperfective over the perfective in their narratives, contrary to the results from Spanish studies, which also grammaticalize the perfective/imperfective contrast. To account for these differences, several possible factors are discussed below; namely, the pedagogical factor (of introducing the imperfective before the perfective), L1 influence, and task modality.

6.1. Instruction, markedness, and task modality

6.1.1. Pedagogical factor

What is striking is that despite the prediction of the AH, on previous research in Romance languages that showed that perfective past was used as a default past marker, the present study suggests that the L2 learners of Russian used imperfective past forms as a "default" past tense form. This we argue is because the imperfective past in most Russian programs (including the institutions where our participants studied Russian) is taught before the perfective past, as it is morphologically unmarked in Russian; that is, for most Russian verbs learned by these students, imperfective is unmarked and perfective is derived by adding an affix. We argue that because the unmarked imperfective past is introduced first before perfective past, the beginning-level learners initially use the imperfective more often when expressing situations in the past tense.

6.1.2. L1 influence

It has been shown that in SLA, morphological development is strongly influenced by learner's L1 (Andersen, 1983; Luk and Shirai, 2009), Therefore, it is also possible that during the early stages of using the imperfective past, the beginners in the present study considered it to be an equivalent of their L1 (English) simple past, which can be used flexibly with all lexical aspect classes. Salaberry (2008), in relation to morphological markedness, makes a similar proposal for L1 English learners of Spanish: "a corollary of the fact that English Simple Past marks tense and not aspect is that it is natural for L2 Spanish learners to simply equate Simple Past with Spanish Preterite" (p. 215). Consequently, L1 influence is another possible contributing factor corroborating for the use of the imperfective as a default past tense marker among beginning-level learners of Russian.

Another possible L1 related-reason that lower-level learners prefer using the imperfective in their narratives relates to the morphological complexity of the L2 (and lack thereof in the L1). It is possible that because the Russian perfective can be expressed with a large number of prefixes, the lower-level learners simply did not know the perfective forms of the verbs that they produced and chose to keep the verb in the imperfective.

6.1.3. Written vs. oral task and planning time

The final factor considered is the effect of task modality on the degree to which learners may be sensitive to lexical aspect when producing tense-aspect forms. The distribution of the imperfective among beginning-level learners showed a considerable difference between the two modalities. In the written narratives, the production of the imperfective among beginning-level learners showed a less prototypical distribution in relation to the higher-level learners, which is contradictory to one of the AH's predictions. In the oral narratives, however, the beginning-level distribution of the imperfective was much more prototypical, and the progression in the use of the imperfective

from beginners to advanced learners shows stronger support for the AH.

This indicates that task modality does indeed have an effect on the degree to which the AH is supported, and we propose that cognitive processing, as discussed by Ellis (1987), Foster and Skehan (1996), Ellis and Yuan (2004), is one reason that we see these differences between modalities. Ellis (1987), for example, found that when more planning time was given, the learners were able to focus on form and apply conscious effort through their explicit knowledge of L2 grammar in marking the past tense, but performance improved only for regular morphology (the English simple past –ed). In the case of Russian, students have to apply both a simple rule (the imperfective past, which involves the addition of the past tense suffix –l to the base root of the verb), and a complex rule (the perfective past, which involves both the past tense suffix –l and often the addition of some other affix, usually a prefix). Overall, when the beginning-level learners had more time to attend to form while writing the written narratives[9], they were able to apply both rules (the imperfective was produced in 57% of past tense tokens). However, when the beginners had less time to plan and focus on form during the oral narratives, we see some differences: (1) fewer past tense forms were produced in the oral narratives vs. the written narratives (65% of all verb tokens were past tense in the oral narratives, compared with 80% of tokens in the written narratives); and (2) as a whole, more imperfective- marked verbs were produced in both past and non-past forms in the oral narratives (72.5% of all verb tokens were imperfective in the oral narratives, compared to 61.5% in the written narratives). A possible interpretation of these observations is that because of less planning time, the learners had more difficulty applying the complex rule of the perfective, and rely on automatized, implicit knowledge, which results in a greater preference to use the imperfective (a simpler rule) and non-past forms—also a simple rule, and one that the learners are exposed to first in instruction.

6.2. The default past tense hypothesis or the Aspect Hypothesis?

How should we interpret the results in relation to the competing theoretical positions in the field—namely the Aspect Hypothesis and the Default Past Tense Hypothesis? Previous research involving the AH has shown that L2 learners are sensitive to lexical aspect when applying grammatical markers (Andersen, 1991; Andersen and Shirai, 1994), while the DPTH predicts that in the initial stages of learning, L2 learners may assign a default past tense form across lexical aspect categories, suggesting that beginning learners may not initially adhere to the AH (Salaberry, 1999). The present study has shown that as proficiency level increases, L2 learners show behavior more congruent with the AH: they appear to take lexical aspect increasingly into account when applying tense-aspect markers on verbs. The results of this study also indicate that the task involving a lower level of planning (oral

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9   The learners in Study 1 (the written task) had more planning time while completing the task, as opposed to the learners in Study 2, who had no planning time before or during their oral narratives.

narratives) is more supportive of the AH, compared to written narratives, which involve a higher level of planning. The results also show that regardless of task modality, beginning-level learners of Russian show a preference in producing the imperfective form in the past tense. We discuss below these observations in relation to previous studies which supported the AH or the DTPH.

First, we need to compare Salaberry's studies and Andersen's study that was the starting point of the AH. Both studies were conducted with L1 English learners learning Spanish, but the crucial difference is that Andersen's learners were adolescents acquiring Spanish naturalistically in Puerto Rico, while Salaberry's learners were college students acquiring Spanish in a foreign language classroom setting in the US. Note also that López-Ortega's (2000) study on four naturalistic learners of Spanish by Moroccan Arabic-French bilinguals found clear support for the AH in her analysis of spoken narrative data elicited from them. Thus, one could hypothesize that learning environment may determine whether the data support the AH or DTPH.

This is consistent with the facts about the acquisition of Russian. As noted earlier, L1 acquisition of Russian is essentially consistent with the AH: children associate perfective past with telic verbs, and imperfective past with atelic verbs, and this association is stronger when they are younger (e.g., Stoll, 1998). Heritage learners of Russian were also observed to use verbal morphology to encode lexical aspect, i.e., using perfective past with telic verbs and imperfective past with atelic verbs, suggesting that the AH can account for a great majority of verb forms produced by heritage speakers (Pereltsvaig, 2005). What is common to these learners is that they learn the language through naturalistic input-processing, focusing on communication, rather than in a foreign language classroom, which is typically input-poor and involves more conscious learning of grammar.

Further strengthening the use of default past tense marker is L1 transfer, as noted by Salaberry (2008). English is a language whose past tense marking is highly grammaticized (Bybee et al., 1994) and can be freely used with all types of lexical aspect as a deictic past marker, while past tense forms in Spanish and many Slavic languages are more aspectual requiring obligatory marking of perfective vs. imperfective aspect in the past tense. Therefore, if English speakers transfer their simple past tense into the target language, it can result in a default past tense marker. For classroom learners, it may not matter if the default past marker is perfective or imperfective; whichever is taught first would likely be the default past tense marker. For Spanish, "the sequence of instruction generally favored by textbooks in the US is biased toward the use of perfective markers of past tense" (Salaberry, 2002, p. 407), while a similar bias can be found for the use of the imperfective for Russian. This is what seems to be happening. Therefore, we can formulate the following hypothesis:

> The DPTH is supported when the learners whose past tense marker is simple past tense (e.g., English) are learning an aspectual language (such as Romance or Slavic) in a foreign language (i.e., input-poor) setting.

In a study by Tong (2012, see also Tong and Shirai, 2016), this prediction was supported and further extended. English L1 learners

learning Mandarin Chinese in an American university showed a similar pattern of acquisition: their sensitivity to lexical aspect was stronger at the intermediate level than at the beginning level. Tong (2012) studied the acquisition of perfective *-le* and progressive *zai*. Since they are not "past tense markers", but aspectual markers, she re-named the essentially same process as "lexical insensitivity hypothesis", which predicts that the acquisition of aspectual markers by English speakers (whose progressive and past tense are both highly grammaticized and therefore versatile) will be more sensitive to lexical aspect at intermediate level rather than beginning level. This is in a sense natural because to be sensitive to lexical aspect, one has to process many instances of tense-aspect markers with skewed input frequency (the Distributional Bias Hypothesis, Andersen and Shirai, 1994, 1996).

The interpretation offered here also explains many studies on English as a second language that support the AH (Bardovi-Harlig and Reynolds, 1995; Bardovi-Harlig, 1998; Collins, 2002). In most of these studies, the learners' L1s are languages that are more aspectual than English, and they receive rich input by being in the target language environment. Therefore, they do not fit the above condition predictive of supporting DPTH even if they receive classroom instruction, and thus deviate from the DPTH.

What then is the status of the Aspect Hypothesis as a universal of second language acquisition? It has been argued that the AH is a universal of SLA (e.g., Bardovi-Harlig and Bergström, 1996; Shirai and Kurono, 1998). It appears that some of Salaberry's studies (Salaberry, 1999, 2000) are clear counterexamples to the "developmental" predictions of the AH. Faced with these counterexamples, it is not possible to argue that the AH is an absolute universal. Rather, it should be treated as a universal tendency (McLaughlin, 1987). Given that language acquisition proceeds under the influence of multiple factors (Snow et al., 1987; Shirai, 2004), it is not surprising that there are some exceptions to the generalizations of the AH. In the end, whether the AH is supported or not is not as important as why the AH is generally supported. This is because it is only by answering the question of "why" can we construct a theory on the mechanisms of language acquisition. By trying to answer why some studies adhere to the AH and to what extent, we will have a better understanding of the mechanisms of tense-aspect acquisition (Shirai, 2009), which is what we tried to achieve in this paper.

Finally, task modality effect also needs to be considered in this connection. The studies that looked at the AH are mostly single task studies. A few exceptions such as Bardovi-Harlig (1998) and Sugaya and Shirai (2007) point to the importance of automaticity. In both studies, oral tasks presumably elicited more monitor-free interlanguage based on implicit knowledge than written tasks, which do not require automatic control of tense-aspect markers. Another exception is Domínguez et al. (2013), who examined how production and comprehension tasks show how the patterns of using tense-aspect markers can differ dependent on task type. The present study also examines the factor of task modality and suggests that oral narratives elicit more monitor-free production than written narratives. As long as Spanish L2 is concerned, it appears that the DPTH tends to be supported in tasks requiring a focus on formal accuracy (including paper-and-pencil tests, Salaberry, 2002, 2011) or in impersonal narratives (Salaberry, 1999),

while beginning learners show prototypical associations of preterit marking with telic predicates in open-ended tasks or personal narratives (Bonilla, 2013). Please note that in telling an impersonal narrative, the learner knows that once the story has to be told in the past tense, it is easier to consciously produce the past tense via explicit knowledge of the target grammar (Ellis, 1987). Impersonal narratives such as film retells differ from first person narratives or conversational interviews, in the sense that conversations and first person narratives facilitate natural shift in temporal reference (resulting in references in the past, present and future), which makes it more difficult to use monitor to produce the past tense, while film retell allows learners to make an effort to tell a story in the past all the way through, which make it easier to use monitor to apply past tense inflection.

Given these considerations, we can further hypothesize that *the more natural the acquisition environment and the task is, the acquisition and use of tense-aspect forms will be more consistent with the AH*. Further studies should test this hypothesis, as well as the effect of different L1-L2 combinations in terms of the semantics of the source language form (e.g., English past tense) and its equivalent in the target language (e.g., Spanish preterit or Russian imperfective past).

One limitation of the present study is the focus on the past tense forms. By neglecting, for example, future tense forms and aspectual production in impersonal constructions, the present study still provides an incomplete picture of the L2 acquisition of Russian aspect. Although most prior studies (as well as the present study) have tested the AH with past tense forms, the predictions made by the AH would apply to non-past forms as well. Future studies could investigate these forms to determine whether their aspectual production patterns are consistent with the AH's predictions.

Data availability statement

The raw data supporting the conclusions of this article can be made available by the authors, without undue reservation.

Ethics statement

The studies involving human participants were reviewed and approved by University of Pittsburgh, William and Mary University. The participants provided their written informed consent to participate in this study.

Author contributions

WM and YS conceived and designed the experiment. WM implemented the experiment, collected, and analyzed the data and wrote the manuscript. YS contributed to the revision of the article. Both authors contributed to the article and approved the submitted version.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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Supplementary material

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/flang.2023.1119026/full#supplementary-material

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