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Tense and Aspect in the Writing of Singapore School Students

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Abstract

This paper examines the development of tense and aspect in the writing of Singapore school students, through a comparative analysis of verb and verb phrase errors in the compositions of Singapore primary and secondary students. The analysis is done using a lexical semantic framework which looks at how meaning and form interact with one another: the Aspect Hypothesis (Salaberry and Shirai 2002, Andersen and Shirai 1996, Bardovi-Harlig 2000, etc.) postulates that the aspectual meaning of verbs - viz. the ways in which verbs describe the completion and duration of events - affects the degree to which they are accurately marked for tense and aspect. Data of over 100 school composition scripts were examined to provide an authentic basis for the analysis. The comparative analysis across primary and secondary school writing demonstrates interesting patterns which indicate that the development of the grammar of the verb moves from a focus on form to a focus on meaning. The findings in this paper suggests that a more effective approach to the teaching of grammar would be one where the aspectual meaning of verbs is explicitly taken into account when teaching the grammar of verbs in relation to tense and aspect.

Introduction

This study is an investigation of tense and aspect errors in compositions of Singapore students in primary and secondary schools from the lexical semantic perspective. In particular, it seeks to provide a systematic understanding of the differences in the marking of past tense in Singapore English writing through a quantitative investigation that examines data from the perspective of the Aspect Hypothesis in the language acquisition literature. A central claim of the Aspect Hypothesis salient to this study is that the selection and use of perfective and/or past marking is initially restricted to the marking of telic predicates (Salaberry and Shirai 2002, Andersen and Shirai, 1996 Bardovi-Harlig 2000) - in other words, a learner will acquire and appropriately use morphological tense markings for telic verbs (i.e. achievements and accomplishments) before atelic verbs (i.e. states and activities). The Aspect Hypothesis therefore suggests that the distribution of tense errors can be predicted on the basis of telicity – where we would expect a higher occurrence of tense errors with verbs whose lexical aspects are atelic, i.e. states and activities, than verbs whose lexical aspects are telic, i.e. achievements and accomplishments. In this study, we formulate and test the

hypothesis that the aspectual classes of verbs can explain patterns of errors in past tense marking.

Data Collection

The data for this research consist of 58 composition scripts from 2 Primary 5 classes and a Primary 6 class in two neighbourhood primary schools. The average length of each composition script is about 200 words, with an average of 30 verbs and verb phrases. Within the corpus of about 21 000 words, each script exhibit past tense marking errors in more than an estimated 60% of the verbs (and verb phrases).

Middle of year examination composition scripts from a secondary school are also used in this study. The scripts were collected from a neighbourhood school whose students were in the average ability range with an average Primary School Leaving Examination (PSLE) score of about 225 for the Express stream and 190 for the Normal stream. A neighbourhood school was chosen for this study, as this would be more representative of the general student population in Singapore.

A total of 205 scripts were collected. The average length of each composition is about 430 words and each composition contains about 75 verbs and verb phrases. From these 205 scripts, 55 scripts that exhibit morphological errors in past tense marking are selected and transcribed. On average, scripts that exhibit past tense marking errors have more than 20% of the verbs (and verb phrases) with past tense marking errors. The total size of the secondary school corpus is about 24,000 words.

The students from the Normal (Academic) and the Express Stream are not distinguished because the syllabuses for both streams of students are identical and that both groups of students are expected to show mastery in the same grammatical features in their writings at Secondary Two. The only difference between students from the two streams is that students from the express stream are required to write longer composition of about 100 words more. Another reason for not distinguishing the students between the two streams is that tense and aspect errors exhibited by students are common in both streams.

Data Analysis - Aspectual Classes of Verbs

The Aspect Hypothesis is grounded on a binary distinction based on the telicity of a verb, i.e. whether or not the verb has an end-point. The more detailed categorization offered by Vendler's (1967) four-way classification of the lexical aspect of verbs is useful for clarifying finer distinctions among the various classes of verbs, and has been used widely as well in the literature (e.g. Andersen and Shirai, 1996). According to this classification, verbs fall into one of four categories. This is based on the lexical meanings of the verb, but which is also dependent on their context of use.

The four lexical categories of verbs are state, activity, achievement and accomplishment verbs. According to Vendler (1967), states denote situations where no change occurs (know, love...). Activities denote situations where a change occurs but without showing any inherent ending for this change, that is to say, atelic situations (run, walk...). It is not that activities do not have an ending point, just that this ending point is only dependent on the agent's will. The agent decides when the event stops. Accomplishments, on the other hand represent changing situations with in intrinsic natural culmination (build, destroy...). Finally, achievements denote situations where the inherent end is instantaneously achieved (explode, kill...).

In order to accurately identify verbs in the corpus as belonging to one of these four categories, we need to devise tests that distinguish these aspectual classes. Most of the tests used here are commonly used and referred to in the literature (e.g. Bardovi-Harlig 2000, Baker 1989). The first test involves the use of two contrasting adverbial phrases – “for ten minutes” vs “in ten minutes”. As atelic verbs, States and Activities do not have natural end points. Consequently, such verbs can take an adverbial phrase such as “for ten minutes” – this indicates that the activity has no end point. In contrast, verbs which fall into the categories of Achievement and Accomplishment have natural end points and taking on an adverbial phrase such as “for ten minutes” will not be grammatical. Consider the following examples from the corpus:

- 1a State: I felt a little afraid *for ten minutes*.
 - b Activity: A group of guys sat there *for ten minutes*.
 - c Achievement: *We decided *for ten minutes* to go.
 - d Accomplishment *We reached there *for ten minutes*.
- :

Conversely, telic verbs like Achievements and Accomplishments have natural endpoints, and can therefore be used with an adverbial phrase such as “in ten minutes” which indicates a natural end point. Contrastively, atelic verbs like States and Activities do not have natural end points and consequently cannot co-occur with the adverbial phrase “in ten minutes”:

- 2a State: *I felt a little afraid *in ten minutes*.
- b Activity: *A group of guys sat there *in ten minutes*.
- c Achievement: We decided *in ten minutes* to go.
- d Accomplishment: We reached there *in ten minutes*.

As can be seen from the above paragraphs, telicity is an important concept to consider when classifying the aspectual class of a verb especially when using the adverbial phrase test.

Although the adverbial phrase test, described above, is able to differentiate atelic verbs (State and Activity) from telic verbs (Achievement and Accomplishment), other tests are needed to differentiate States from Activities and Achievements from Accomplishments.

In order to do this, other factors need to be considered. The first factor is agentivity. Verbs with an aspectual class of Activity require an agent whereas verbs with an aspectual class of State do not. To test for agentivity, Kearns (2000) proposes that agentive events can be indicated by the use of verbs like 'persuade', and adverbs like 'carefully' and 'deliberately'. These verbs can also occur in the imperative voice. Consider the following examples.

- | | | |
|----|-----------------|--|
| 3a | State: | *I <i>deliberately</i> felt a little afraid. |
| b | Activity: | A group of guys <i>deliberately</i> sat there. |
| c | Achievement: | *We <i>carefully</i> decided to go. |
| d | Accomplishment: | We <i>carefully</i> arrived there. |
-
- | | | |
|----|-----------------|--|
| 4a | State: | *John <i>persuaded</i> me to feel afraid. |
| b | Activity: | John <i>persuaded</i> the guys to sit there. |
| c | Achievement: | *John <i>persuaded</i> us to decide to go. |
| d | Accomplishment: | John <i>persuaded</i> us to arrive there in ten minutes. |
-
- | | | |
|----|-----------------|------------------------------|
| 5a | State: | *Feel afraid! |
| b | Activity: | Sit there! |
| c | Achievement: | *Decide to go. |
| d | Accomplishment: | Arrive there in ten minutes. |

According to Kearns (2000), Achievement verbs depict events that occur instantaneously, unlike State, Activity and Accomplishment verbs that can occur over a period of time.

In this thesis, the authors also devised another test to distinguish between accomplishment and achievement verbs by using the adverb 'suddenly'. Following Kearns (2000), the word 'suddenly' shows the instantaneous nature of the achievement verbs as opposed to accomplishment verbs that require a period of time for the entire event to play out. Consider the following.

- | | | |
|----|-----------------|---|
| 6a | Achievement: | We <i>suddenly</i> decided (Achievement) to go. |
| b | Accomplishment: | *We <i>suddenly</i> reached (Accomplishment) there. |

In order to investigate whether aspectual classes of verbs can explain the patterns of errors in tense and aspect marking, all verbs from both the primary and secondary school corpus are tagged (V) and verbs with tense and aspect marking errors are tagged (X). Each of the verbs was tagged to them to indicate the aspectual class: States were tagged as (S), Activities were tagged as (Act), Achievements were tagged as (Ach) and Accomplishments were tagged as (Acc). The excerpt below gives an example of how the texts are tagged.

On a cool breezy morning where the atmosphere is (V) (X) (S) moist and there are (V) (X) (S) morning dew on the

grass and leaves, I decided (V) (Ach) to jog (V) (Act) in the park.

After all the verbs were tagged, the corpus was put through a concordancing program (ConcApp) to determine the number of verbs in each aspectual class as well as the number of errors in each aspectual class.

In order to show that the data collected exhibit a distinct and significant pattern, the chi square test was used to compare the actual observed frequencies of some phenomenon with the frequencies one would expect if there were no relationship at all between the two variables in the larger population, i.e. the null hypothesis. The chi-square relates the actual results against the null hypothesis and assesses whether the differences are significant enough to rule out sampling error. In this study, the probability of error threshold of 1 in 20, or $p < 0.05$ is set.

Findings: Tense and Aspect Marking Errors with respect to the Lexical Aspect of Verbs

The hypothesis to be tested here is that (H1) aspectual classes of verbs can explain the patterns of errors in tense and aspect marking. In particular, H1 states that verbs which are atelic will contain more errors in past tense markings than verbs which are telic. The null hypothesis conversely states that there is no significant relationship between the lexical aspects of verbs and tense and aspect marking errors.

Before performing the chi square test, all verbs (and verb phrases) in the corpus were categorized according to Vendler's (1967) aspectual classes of Achievement, Accomplishment, Activity and State. For each of these aspectual classes, the number of verbs that are correctly marked for tense and aspect are compared with the number of verbs that are incorrectly marked for tense and aspect for both the primary and secondary school corpus. Data from the primary school corpus will first be analysed followed by data from the secondary school corpus.

The following table shows a summary of the raw scores in each category:

No. of verbs = 1903	TELIC		ATELIC	
	Achievement	Accomplishment	Activity	State

Distribution	19%			25%			27%			29%		
	T	C	I	T	C	I	T	C	I	T	C	I
	363	268	95	480	397	83	508	387	121	552	376	176
%	100%	73.8%	26.2%	100%	82.7%	17.3%	100%	76.2%	23.8%	100%	68.1%	31.9%
% Incorrect (Telicity)	Telic verbs incorrectly marked for tense = 21.1%						Atelic verbs incorrectly marked for tense = 28%					

Legend: T = Total, C = Correctly marked, I = Incorrectly marked

Table 1: Summary of distribution of verbs among aspectual classes and proportions of verbs correctly and incorrectly marked for tense and aspect in each aspectual class in compositions of primary school students.

As can be seen from the table above, the largest percentage of verbs in the sample texts from primary school comes from the aspectual class of state verbs, with a total of 552 verbs, i.e. 29% of corpus. This is followed by 508 activity verbs which form 27% of corpus, 363 achievement verbs which make up 19% of corpus, and 480 accomplishment verbs which make up 25% of corpus.

Initial study of Table 1a also reveals that, atelic verbs with a lexical aspect of state and activity does exhibit more errors in past tense marking as compared to telic verbs which consists of achievement and accomplishment verbs/predicates. 28% of atelic verbs consisting of state and activity verbs are incorrectly marked for tense as compared to 21% of telic verbs consisting of achievement and accomplishment verbs that are incorrectly marked for tense.

We used the chi-square test to check if the differences in numbers among the errors in the various aspectual classes are statistically significant. The table below shows the result of the test:

Table 2a: Result of Chi Square Test for Telicity

Observed values	Correctly marked	Incorrectly marked	Total
Telic	665	178	843
Atelic	763	297	1060
Total	1428	475	1903

Expected values	Correctly marked	Incorrectly marked	Total
Telic	632.5822	210.4178	843
Atelic	795.4178	264.5822	1060

Chi Square	(O-E) ² /E
Telic Correct	1.661304
Telic Incorrect	4.994404
Atelic Correct	1.321207
Atelic Incorrect	3.971964
Total Chi Square	11.94888

df = 1
p<0.05

Significant

Null hypothesis: There is no difference between the numbers.

Alternate Hypothesis: There is a difference between the numbers.

Conclusion: Reject null hypothesis that there is no difference between the numbers.

As Table 2a above demonstrates, the chi square test reveals that these differences are statistically significant (Chi Square = 11.94888, df = 1, p<0.05). The chi square test shows that the observed number of errors in tense and aspect marking for atelic verbs (297) is significantly higher than the expected number (264.6). While the observed number of errors in tense and aspect marking for telic verbs (178) is significantly lower than the expected number (210.4). We can therefore conclude that telicity is able to predict the distribution and frequency of errors in past tense marking.

To see if the data reveals finer distinctions, it is further analysed in terms of Vendler's (1967) four-way classification of aspectual classes. An interesting result emerges from the application of the chi-square test on this categorization of verbs:

Table 2b: Result of Chi Square Test for Aspectual Classes of Verbs

Observed values	Correctly marked	Incorrectly marked	Total
Achievement	268	95	363
Accomplishment	397	83	480
Activity	387	121	508
State	376	176	552

%	100%	88.5%	11.5%	100%	89%	11%	100%	80%	20%	100%	69.5%	30.5%
% Incorrect (Telicity)	Telic verbs incorrectly marked for tense = 11%						Atelic verbs incorrectly marked for tense = 26.7%					

Legend: T = Total, C = Correctly marked, I = Incorrectly marked

Table 3: Summary of distribution of verbs among aspectual classes and proportions of verbs correctly and incorrectly marked for tense and aspect in each aspectual class in compositions of secondary school students.

As can be seen from the table above, the largest percentage of verbs in the sample texts comes from the aspectual class of state verbs, with a total of 1548 verbs, i.e. 37% of corpus. This is followed by 832 activity verbs which form 20% of corpus, 537 achievement verbs which make up 13% of corpus, and 1276 accomplishment verbs which are the final 30% of corpus. The high number of state verbs is expected because of the frequency of use of primary verbs, like the copular 'be', and 'have'.

The raw data as seen in Table 3 shows that state verbs have the largest percentage of errors (30.5 % of all state verbs) followed by activity verbs (20% of all activity verbs), achievement verbs (11.5% of all achievement verbs) and finally accomplishment verbs (11% of all accomplishment verbs). Initial study of Table 1b also reveals that, atelic verbs with a lexical aspect of state and activity does exhibit more errors in past tense marking as compared to telic verbs which consists of achievement and accomplishment verbs/predicates. 26.7% of atelic verbs consisting of state and activity verbs are incorrectly marked for tense as compared to 11% of telic verbs consisting of achievement and accomplishment verbs that are incorrectly marked for tense.

We used the chi-square test to check if the differences in numbers among the errors in the various aspectual classes are statistically significant. The table below shows the result of the test:

Table 4a: Result of Chi Square Test for Telicity

Observed values	Correctly marked	Incorrectly marked	Total
Telic	1611	202	1813
Atelic	1745	635	2380
Total	3356	837	4193

Expected	Correctly	Incorrectly	Total
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values	marked	marked	
Telic	1451.092	361.9082	1813
Atelic	1904.908	475.0918	2380
Total	3356	837	4193

Chi Square	(O-E) ² /E
Telic Correct	17.62165
Telic Incorrect	70.65501
Atelic Correct	13.42355
Atelic Incorrect	53.82249
Total Chi Square	155.5227

df = 1 Significant
p<0.05

Null hypothesis: There is no difference between the numbers.
Alternate Hypothesis: There is a difference between the numbers.
Conclusion: Reject null hypothesis that there is no difference between the numbers.

As Table 4a above demonstrates, the chi square test reveals that these differences are statistically significant (Chi Square = 155.5227, df = 1, p<0.05). The chi square test shows that the observed number of errors in tense and aspect marking for atelic verbs (635) is significantly higher than the expected number (475.0918). While the observed number of errors in tense and aspect marking for telic verbs (202) is significantly lower than the expected number (361.9082). We can therefore conclude that telicity is able to predict the distribution and frequency of errors in past tense marking.

To see if the data reveals finer distinctions, it is further analysed in terms of Vendler's (1967) four-way classification of aspectual classes. An interesting result emerges from the application of the chi-square test on this categorization of verbs:

Table 4b: Result of Chi Square Test for Aspectual Classes of Verbs

Observed values	Correctly marked	Incorrectly marked	Total
Achievement	475	62	537
Accomplishment	1136	140	1276
Activity	669	163	832
State	1076	472	1548
Total	3356	837	4193

Expected values	Correctly marked	Incorrectly marked	Total
Achievement	429.8049	107.1951	537
Accomplishment	1021.287	254.7131	1276
Activity	665.9175	166.0825	832
State	1238.991	309.0093	1548
Total	3356	837	4193

Chi Square	(O-E) ² /E
Ach Correct	4.752379
Ach Incorrect	19.05494
Acc Correct	12.88482
Acc Incorrect	51.66242
Act Correct	0.014269
Act Incorrect	0.057212
S Correct	21.44162
S Incorrect	85.97142
Total Chi Square	195.8391

df = 3
p<0.05

Significant

Null hypothesis: There is no difference between the numbers.

Alternate Hypothesis: There is a difference between the numbers.

Conclusion: Reject null hypothesis that there is no difference between the numbers.

The chi square test above reveals that these differences are statistically significant (Chi Square = 195.8391, df = 3, p<0.05).

Conclusion

This small study has shown that aspectual classes of verbs can explain tense and aspect marking errors. In particular, the findings are that atelic are more frequently marked incorrectly for tense. The findings reported in this study are important to the study of language learning in the Singapore context because of the way in which errors made in learner language have been attributed to various factors.

Singapore English (SE) has traditionally been analysed under two frameworks: the Llectal Continuum Approach and the Diglossia approach.

In the Llectal Continuum Approach (Platt and Weber 1980), variation within Singapore English (SE) is treated as dependent on the social status and level of education of the speaker. Whether or not an utterance or sentence is standard is judged against the Standard British English (StdBrE) (Alsagoff 1998). Platt and Weber (1980) categorize SE into different lects: the most prestigious being the acrolect, next being mesolect and the lowest being basilect. According to Platt and Weber (1980), speakers of SE can be placed

along a scale according to a range of linguistic features. This approach does not emphasise the internal rule-governed system of SE as it considers SE as a non-native variety of English and focuses on how it differs from StdBrE (Alsagoff, 1998).

The Diglossia approach (Gupta 1994) views SE as a native variety and views SE as a speech continuum. Gupta (1994) notes that Singapore Colloquial English (SCE) is the main variety of English at the home and in casual situations and that even for children, who have acquired English from birth, are likely to have SCE, instead of Standard English (Gupta, 1994:7). Therefore, errors that might occur in Singapore English might be strongly influenced by SCE. This will have great impact on their acquisition of the language in the formal setting of a school requiring students to produce Standard English.

Under these two approaches, grammatical errors analysed in SE are usually attributed to interference and influence of base languages such as Chinese, Malay and even SCE (Tay 1979, Gupta, 1994, Poedjosoedarmo 2000, Deterding 2000 and others). However, Alsagoff (2001) highlights the comments of Thomas (1996) in that he observed that learners of English tend to omit tense and agreement markings, whatever their first or background language is. Thomas (1996) also notes that there are dialects of British English, which do not mark, in a regular fashion, the third person present tense. Thomas' (1996) comment that learners of English tend to omit tense and agreement markings, whatever their first or background language is, suggests that the lack of tense marking in students' compositions, when the situation requires it, may be due to some other factors other than interference from their first or background language.

This synchronic study has confirmed, in the area of tense marking, that there is some form of universality in the acquisition of grammar, in particular verbal morphology, and this can be explained from the perspective of the Aspect Hypothesis (Salaberry and Shirai 2002, Andersen and Shirai, 1996, Bardovi-Harlig 2000). The patterns of errors reported in this study are consistent with the predictions of the aspect hypothesis. The students recorded a lower frequency of past tense marking errors among telic verbs, which are mastered earlier in terms of the acquisition of verbal morphology, while students recorded a higher frequency of past tense marking errors among atelic verbs, which are mastered later in terms of the acquisition of verbal morphology according to the aspect hypothesis.

Therefore it is important for teachers and students to be aware of areas in which students are more likely to commit errors in tense and aspect marking in their writing. Teachers might need to raise students' consciousness to the kinds of verbs that students tend to commit errors in tense marking and to take steps to avoid them in order to strive for higher grammatical accuracy in their composition writing.

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