

Lexical Aspect and the Acquisition and Use of Arabic Verbal Forms

Ahmed F. Al-Faroufi

*Assistant Professor, Department of Foreign Languages,
College of Education, King Faisal University,
Al-Hofuf, Saudi Arabia*

(Received 12/6/A.H. 1421; accepted 7/1/A.H. 1422 A.H.)

Abstract. The 'Lexical Aspect Hypothesis' of first language acquisition states that the inherent (lexical) features of the verb determine the acquisition of the verbal aspect and tense. The present study examines the role of lexical aspect in the learning of Arabic active participles (AP) by Arab children. The AP is a dual-aspect form: it expresses progressive and-perfective) aspect. These aspectual meanings of the AP are determined by the inherent semantics of its source verb, from which it is derived. Results indicate that the aspectual class, à la Vendler, influences the initial emergence and development of the AP. The Arab child starts using the AP for continuative / progressive aspect with activity verbs, which are stable and entail no change or result (telic). When the child acquires the concept of completion and marks it by the perfective verb *naʕma* (s/he uses the AP for telic verbs, which have definite results, to encode perfect aspect. This aspectual influence is also clear in the acquisition of the imperfective and perfective verbs: the imperfective form first appears with activity verbs (atelic and durative), while the perfective form first appears with achievement verbs (telic and punctual).

1. Introduction

A child learning to talk about events must find out which of the temporal and aspectual categories are formally present in his/her language and which are not formally explicit but are dealt with pragmatically. The task for the child is to discover not only the morphological and syntactic reflexes of tense and aspect in his/her language but determine their mappings onto their corresponding semantic categories.¹

Children learning languages as different as Bulgarian² (Carstairs, 1980),³

¹ See W. Klein, *Time in Language* (Lanham, Rowman, 1997).

² K. McClain, 'Issues in the Acquisition of Tense and Aspect in Bulgarian', paper presented to the American Association of Teachers of Slavic and East European Languages, 10th Annual Conference, Chicago, May 2–4, 1975.

³ E. Y. and M. Bowerman, 'The Acquisition of Event and Grammatical Aspect in Bulgarian', *Journal of Child Language* 18 (1991), 3–29.

⁴ A. van der, 'Event Semantics of Verb Phrases in Russian', *Journal of Child Language* 27 (2000), 1–20 (Benard, 'The Non-lexical' *Kalshofe* Language, 1997).

English,⁽⁵⁾ French,⁽⁶⁾ German,⁽⁷⁾ Hebrew,⁽⁸⁾ Italian,⁽⁹⁾ Japanese,⁽¹⁰⁾ Polish,⁽¹¹⁾ Russian⁽¹²⁾ and Turkish⁽¹³⁾ produce a striking distribution in their early production of temporality: they tend to restrict past tense markers to be used on telic verbs which describe naturally bounded events, while present tense is predominantly used on atelic verbs that describe events without an inherent endpoint. This distributional pattern has given rise to various versions of the Aspect Hypothesis, which claims that tense morphology initially marks lexical aspect: i.e., in the beginning stages of language acquisition only inherent aspectual distinctions are encoded by verbal morphology, not tense (present-past distinction) or grammatical aspect (perfective-imperfective distinction). An explanation for this state of affairs is that lexical aspect categories are innate.⁽¹⁴⁾

The present study was set to determine whether Arab children follow the same acquisition sequences as children of other languages; i.e., whether the interim grammar of children acquiring Arabic as a first language shows the primacy of aspect.

2. Statement of Significance

Early assumptions about the acquisition of aspectual/temporal systems by young speakers were based mainly on data from English.⁽¹⁵⁾ In the 1980s and 1990s more

⁽⁵⁾ M. Olsen, "The Semantics and Pragmatics of Lexical Aspect Features," *Studies in the Linguistic Sciences*, 24 (1994), 361-75.

⁽⁶⁾ A. Ferdinand, "Semantic Verb Types and the Acquisition of Verb Movement in French," paper read at ESCOL '94 (Eastern States Conference on Linguistics) at the University of South Carolina, September 30-October 2, 1994.

⁽⁷⁾ H. Hendricks, M. Hickmann, and J. Liang, "The Uses of Temporal-Aspectual Devices by Chinese Children: Semantic and Discourse Determinants," paper presented at the 3rd International Conference on Chinese Linguistics (ICCL-3), 1994.

⁽⁸⁾ R. Berman, *Acquisition of Hebrew* (Hillsdale, NJ: Erlbaum, 1985).

⁽⁹⁾ S. Rocca, "A Bi-Directional Study on Child Second Language Acquisition of Temporal Morphology," paper presented in Postgraduate Conference, Department of Linguistics and Applied Linguistics, University of Edinburgh, Edinburgh, Scotland, 1999.

⁽¹⁰⁾ N. Takai, "Acquisition of Japanese Temporal Adverbial Clauses: A Study on Aspectual Properties of Verbs," an invited talk at University of Evansville, Indiana, April 19, 1996.

⁽¹¹⁾ R. Weist, H. Wysocka and P. Lyytinen, "A Cross-Linguistic Perspective on the Development of Temporal Systems," *Journal of Child Language*, 18 (1991), 67-92.

⁽¹²⁾ S. Stoll, "The Acquisition of Russian Aspect," *First Language*, 18 (1998), 351-77.

⁽¹³⁾ A. Aksu, "Aspect and Modality in the Child's Acquisition of the Turkish Past Tense," unpublished Ph.D. dissertation, University of California at Berkeley, 1978.

⁽¹⁴⁾ See M. Olsen and A. Weinberg, "Innateness and the Acquisition of Grammatical Aspect via Lexical Aspect," in *Proceedings of the 23rd Boston University Conference on Language Development* (Somerville: Cascadilla Press, 1999), 529-40; and M. Olsen, A. Weinberg, J. Lilly, J. and E. Drury, "Mapping Innate Lexical Features to Grammatical Categories: Acquisition of English -ing and -ed," in *Proceedings of CogSci98, University of Wisconsin at Madison*, 1998. Another explanation has been suggested recently which says that these categories are learned from (parental) input, see Y. Shirai and R. Andersen, "The Acquisition of Tense-Aspect Morphology: A Prototype Account," *Language*, 71= (1995), 713-62; Li and Bowerman, "Acquisition," and K. Duggan and K. and U. Hunt, "The Role of Parental Input Concerning Lexical and Morphological Acquisition in Children," paper read at the Fourteenth Annual Arts and Sciences Student Symposium 1999, University of Richmond.

⁽¹⁵⁾ See Bloom, K. Lifter, and J. Hafitz, "Semantics of Verbs and the Development of Verb Inflection in Child Language," *Language*, 56 (1980), 386-412.

attention has been paid to the importance of crosslinguistic data.⁽¹⁶⁾ However, the crosslinguistic data for the Arabic language is lacking; there is not any study on the acquisition of Arabic verbal tense and aspect by children.

Arabic provides an especially interesting case for aspectual/temporal systems, since its tense and aspect are fused in one category in its two verb forms, commonly categorized perfective and imperfective.⁽¹⁷⁾ The binary temporal system is enhanced by a third form, the (active) participle, making a ternary system⁽¹⁸⁾ (see section 3.2). This paper examines the emergence of the temporal/aspectual system of Arabic based on the data from the author's diary records of his three children.

3. Background

3.1. Lexical Aspect and Lexical Aspect Hypothesis

The inherent temporal features of the verb play a major role in the acquisition of verbs and tense and aspect.⁽¹⁹⁾ The intrinsic temporal features of the verb are characterized as lexical aspect, in contrast to grammatical aspect that refers to the perfective-imperfective distinctions, which are marked by verb forms, particles, and other grammatical and syntactic means. The "Lexical Aspect Hypothesis" emphasizes the influence of the lexical aspectual value of the verb and predicts that children mark verbal aspect according to the aspectual features of the verb.⁽²⁰⁾

The inherent aspectual values of the verb have been used to classify the verb into four aspectual classes: states, activities, achievements, and accomplishments.⁽²¹⁾ State verbs, such as 'believe,' 'have,' 'belong,' 'contain,' 'need,' 'know' and 'own,' describe non-dynamic situations,⁽²²⁾ notably unchanging conditions. Activities include motion verbs such as 'go' and 'walk' and static verbs such as 'sit' and 'stand'. These verbs are consistent and non-goal oriented; they involve no change and have no terminal points that lead to results. Accordingly, they are characterized as *atelic verbs*. In contrast, *telic*

⁽¹⁶⁾ See, for example, D. Slobin, *Crosslinguistic Study of Language Acquisition*. Vols. 1-2 (Hillsdale, NJ: Lawrence Erlbaum Associates, 1985).

⁽¹⁷⁾ See B. Comrie, *Aspect: An Introduction to the Study of Verbal Aspect and Related Problems* (Cambridge: Cambridge University Press, 1976), 78-80.

⁽¹⁸⁾ See N. Kharma, *Contrastive Analysis of the Use of Verb Forms in English and Arabic* (Heidelberg: Julius Groos Verlag, 1983), 34,36; and D. Caubert, "The Active Participle as a Means to Renew the Aspectual System: A Comparative Study in Several Dialects of Arabic," in A. Kaye, ed., *Semitic Studies: In Honor of Wolf Leslau, on the Occasion of his Eighty-Fourth Birthday* (Wiesbaden: Otto Harrassowitz, 1991), 209-204.

⁽¹⁹⁾ Bloom, Lifter, and Hafitz, "Semantics," 386-412. M. Rispoli, "Lexical Assignability and Perspective Switch: The Acquisition of Verb Subcategorization for Aspectual Inflections," *Journal of Child Language*, 17 (1990), 375-92.

⁽²⁰⁾ See K. Bardovi-Harlig, and D. Reynolds, "The Role of Lexical Aspect in the Acquisition of Tense and Aspect," *TESOL Quarterly*, 29 (1995), 107-31.

⁽²¹⁾ Z. Vendler, "Verbs and Time," in Z. Vendler, ed., *Linguistics in Philosophy* (Ithaca, New York: Cornell University Press, 1967), 97-121.

⁽²²⁾ 'Situation' hereafter refers to state, event, action, process, and activity.

verbs, e.g. 'write a letter,' 'throw a ball' have built-in terminal points and, thus, the focus is on the goal or result rather than on the act itself. Telic verbs are subclassified into two groups according to their duration: verbs of long duration (durative), e.g. 'write' and 'build', are called accomplishments, whereas verbs of short or no duration (punctual), e.g. 'throw' and 'push', are called achievement verbs^{1,2,3}. Table 1 provides a summary of this classification.

Table 1. Verb Classes and Their Aspectual Features

Telic Verb	Verb Class			
	State	Activity	Achievement	Accomplishment
Durative	-	+	+	-
Punctual	-	-	+	+
Non-telic	-	-	+	-
Examples	believe know	walk sit	throw begin	build a house write a letter

2. Verbal Forms in Arabic

In Arabic, including Gulf Arabic (GA), a colloquial variety spoken in Kuwait, Bahrain, Qatar, United Arab Emirates, Oman, and the eastern region of Saudi Arabia, the primary form is past or the *subj* (see section 3.1), the perfective verb expresses complete events and complete entrance to a new state with stative verbs, while the imperfective form expresses incomplete events and continuation of the state with stative verbs. In Arabic, the perfective-imperfective opposition renders past-nonpast tense contrast, i.e. the perfective signals past situations and the imperfective signals present and future situations. The verb /*boana*/ ('be') and the prefix /*ba-*/ bound the imperfective in the past and future time reference, respectively. Since these forms are not considered in the present study, there is no need for more details.

The Arabic participle (hereafter: AP) whose structure is *ʔa:CaCiC* (C= consonant) can be used as a noun, adjective and verbal use.^{4,5} Inside this section, (1-3)

2.1. Arabic Adjective

1. *ʔa:CaCiC* (nominal)
2. *ʔa:CaCiC* (adjectival)
3. *ʔa:CaCiC* (verbal)

¹ For a detailed analysis of Gulf Arabic (GA) in terms of Vendler's classification, see B. Al-Najjar, 'Syntax and Semantics of the Perfective and Imperfective Verbs in Gulf Arabic', Ph.D. dissertation, University of Utah, 1984.

² See also the work of Dowty (1991).

³ See also the work of Dowty (1991).

⁴ See also the work of Dowty (1991).

⁵ See also the work of Dowty (1991).

2. AP as a Noun:

a. *huw kaatib mashhuur*
 he writer famous
 'He is a famous writer'.

a. *inta 9aamil kaslan*
 you worker lazy
 'You are a lazy worker'.

3. AP as a Verb:

a. *ana kaatib risalah i-hum*
 I write letter to-them
 'I wrote/have written a letter to them'.

b. *ana raayih l-madrasa*
 I go to-school
 'I am going to school'.

In its verbal function, the AP form, as in sentence (3a-b), takes an argument (an object as in 3a, or prepositional phrase as in 3b). It can also be used adverbially to modify a verb, similar to the English present participle, as in 4a-b.

4a. *jaa maashi*
 come:PFV waking
 'He came walking'.

4a. *dakhal l-bait Haamil shi foq raas-ih*
 enter: PFV the-house carrying something on head-his
 'He entered the house carrying something on his head'.

In the present study, only the verbal uses of the AP will be considered since they reflect its aspectual meanings as a verbal form. With some verbs, the AP encodes the perfect aspect of the situation, i.e., having completed the act indicated by the underlying verb, e. g., /kaatib/ 'have/having written', and with other verbs, it encodes the progressive / continuative aspect of the situation, e.g., /jaalis/ 'sitting'. That is, the aspectual meaning of the AP differs from verb to verb.¹²⁵ Table 2 provides some examples of the three verbal forms and their meanings.

¹²⁵ See El-Jabri (1981), *A Short Reference Grammar of Gulf Arabic* (Theoria, Theoria, Beirut, Lebanon, 1977), 141-47, and El-Jabri, *Gulf Arabic* (London: Routledge, 1990), 189-90.

Table 2. Some Imperfective-Perfective Verbs and Active Participles

	Imperfective	Perfective	Active Participle
1.	yi-ḥab (play)	laḥab (played)	laaḥib (have/having played)
2.	yi-ruuh (go)	raaḥ (went)	raayih (going)
3.	yi-ḥij (come)	jaaḥ(?) (came)	jaay (coming)
4.	yi-ḥib (love)	ḥab (loved)	ḥaab (loving)
5.	yi-bga (want)	baaga (wanted)	baagi (wanting)
6.	yi-shuuf (see)	shaaf (saw)	shaayif (seeing/having seen)
7.	yi-jar (pull)	jar (pulled)	jaar (pulling/have pulled)

The perfect and progressive meanings of the AP are not random, however; they are directly related to the intrinsic features of the underlying verb vis-a-vis Vendler's classification of verbs described above. While the AP of activity verbs (atelic verbs) encodes progressive aspect, it stresses the continuation of the state with state verbs (atelic verbs). With accomplishment and achievement verbs (telic verbs), the AP encodes perfect aspect.⁽²⁶⁾

4. Review of the Literature

Early examinations of children's early production of tense inflections have found that they tend to be distributed according to a verb's aspectual type.⁽²⁷⁾ Past tense marking is restricted to telic (bounded) event types such as "break" and "find" while present tense marking is restricted to atelic (non-bounded) event types such as "ride" and "play." That is, lexical aspect of the verb has an effect on learning tense aspect by children. Recent studies confirm this observation.

Shirai⁽²⁸⁾ investigated the acquisition of verbal morphology by three children acquiring English as a first language to test the Primacy of Aspect claim. Shirai's study confirms the claims of the Aspect Hypothesis: (1) strong associations of past/perfective inflections with achievement and accomplishment verbs in early stages of acquisition, (2) strong associations of progressive inflections with activity verbs, and (3) no overextension of progressive inflections to stative verbs.

⁽²⁶⁾ See Al-Najjar, "Syntax," 174-88; Qafisheh, *Grammar*, 142. In order to verify that my categorization of the aspectual meanings of the AP was objective and correct, six native speakers of Gulf Arabic were asked to translate twenty-eight sentences into English. The sentences were divided evenly among the verb types of Vendler's scheme; each type has seven sentences. The results revealed a high correlation between the seven sets of judgments ($r = .94$), which made me confident to use these categories and verbs in examining the APs of the three Arab children in the study.

⁽²⁷⁾ For example, J. Bronckart, and H. Sinclair, "Time, Tense and Aspect," *Cognition*, 2, no.1 (1973), 107-30; and Bloom, Lifter and Hafitz, "Semantics," 404.

⁽²⁸⁾ Y. Shirai, "Primacy of Aspect in Language Acquisition: Simplified Input and Prototype," unpublished Ph.D. dissertation, University of California, Los Angeles, 1991.

Barr and Regier⁽²⁹⁾ report that the activity verbs show an overall greater rate of overregularization than telic verbs: the mean overregularization rate was 0.67 for activity verbs, 0.39 for telic verbs. This difference was significant, $t(78) = 4.06$, $p < 0.001$. In a regression analysis, lexical aspect was found a significant predictor of overregularization rate, explaining 43% of the variance in rate among different verbs. Controlling for the contributions of the frequency of a verb in the child's speech and the age at which it was acquired, lexical aspect accounted uniquely for 6.17% of the variance ($r^2=0.0617$, $F(3,76)= 8.4661$, $p < 0.01$). The higher rate of overregularization for activity verbs is not predicted by any extant models of past tense learning. These results lend support to the idea that morphological development is tied to conceptual development and its concomitant shifts in meaning, not just to changes in mappings between the stem and past.

Hendricks et al.⁽³⁰⁾ carried out a picture narration task with five-, seven- and ten-year-old Mandarin children, as well as an adult control group. Their discourse data confirm the tendency observed in earlier experimental studies for the perfective *le* in Mandarin Chinese to co-occur with bounded predicates, and imperfective *zai* to be used with unbounded verbs. Based on parallel data from English, German, and French, the researchers argue, however, that the link between aspect marking and verb semantics may depend also on language-specific factors.

Olsen and Weinberg⁽³¹⁾ investigate acquisition of tense and aspect by considering the acquisition of the English *-ed* and *-ing*, which children tend to undergeneralize to semantically well-defined subclasses, as has been observed in the literature.⁽³²⁾ The English perfective *-ed*, or its irregular counterpart, is applied only to verbs denoting completed events with clear results (such as *fix*) and not to states (such as *love*) or to events with no clear end (such as *walk*). The imperfective *-ing* is only used with verbs that clearly denote durative events (verbs such as *carry* vs. *fall*). Adult use of the perfective or imperfective is not bound by the same restrictions. Olsen and Weinberg⁽³³⁾ conclude that the children learning English in their study show asymmetries in associating [-dynamic], [+durative], and [+telic] lexical aspect features with the *-ing* and *-ed* morphology, not tracking adult frequency in any relevant way. They argue that these trends are stable across children if aspectual features rather than event classes are taken to be the proper categories for analysis.

⁽²⁹⁾ D. Barr, and T. Regier, "The English Past Tense and the Child's Conception of Time," paper read at the Twentieth Annual Meeting of the Cognitive Science Society, August 1-4 1998, University of Wisconsin-Madison.

⁽³⁰⁾ Hendricks, Hickmann, and Liang, "Uses."

⁽³¹⁾ Olsen and Weinberg, "Innateness."

⁽³²⁾ See for example, Bloom, Litter and Hafiz, "Semantics," 386-412; Shirai and Andersen, "Acquisition," 743-62.

⁽³³⁾ Olsen and Weinberg, "Innateness," 538.

Wagner³⁵ argues that if children are truly using aspect morphology to mark telicity they will be unable to compute the imperfective paradox.³⁵ Wagner tested her prediction in an experiment in which children saw two versions of a telic event, one completed and one incomplete (e.g., a whole and a half circle) and two descriptions (one perfective: "I drew a circle"; the other imperfective: "I was drawing a circle"). The child's task was to map the sentences to the events. The task can be successfully completed only by pairing the imperfective sentence with the incomplete scene and the perfective sentence with the completed scene. Results showed a strong age effect; older children performed significantly better than younger children.³⁶

In summary, cross-linguistic examinations of children's early production of temporal marking have found that, as a result of the primacy of (lexical) aspect,

1) temporal marking are distributed according to the verb event type: past tense marking is restricted to telic (bounded) event types (achievement/accomplishment verbs, e.g., break, find) while present tense marking is restricted to atelic (unbounded) event types (activity and stative verbs, e.g., play, want),

2) children's use of past marking on achievement/accomplishment verbs, eventually extends to activity and stative verbs,

3) in languages that encode the perfective/imperfective distinction, imperfective past appears later than perfective past, and imperfect past marking begins with stative verbs, extending next to activity verbs, then to accomplishment verbs, and finally to achievement verbs,

4) in languages that have progressive aspect, progressive marking begins with activity verbs, then extends to accomplishment/achievement verbs,

5) stative verbs are not used in progressive situations, i.e., progressive markings are not incorrectly overextended to stative verbs,

6) lexical aspects are the main factor in children's understanding of tense and aspect.

³⁵ L. Wagner, "Syntactic and Semantic Development of Viewpoint Aspect," paper presented at GALA 1997, Department of Linguistics and Applied Linguistics, Edinburgh University.

³⁶ The imperfective paradox refers to the fact that a telic verb loses its entailment of completion when it occurs in the imperfective. For example, the imperfective sentence (1a) and the perfective sentence (2a) contain the same telic predicate but the continuation in (1b) is normal for sentence (1a) but odd in (2b) for (2a).

(1) *Anne was building a house.*

(1b) *Anne was building a house but she didn't finish it.*

(2a) *Anne built a house.*

(2b) *Anne built a house but she didn't finish it.*

³⁷ A number of recent comprehension studies support the claim of Lexical Aspect Hypothesis. Stoll, for example, conducted a comprehension experiment with children from age 2-6. The results show that Aktionsart or the inherent aspectual features of the verb, are the main factor in children's understanding of aspect. (Stoll, "The Acquisition of Russian Aspect: Comprehension vs. Production," paper read at the Weekly Child Seminars, Second Semester Department of Linguistics, University of California, Berkeley, 1993). See also L. Wagner, "The Semantics and Acquisition of Time in Language", unpublished Ph.D. Dissertation, University of Pennsylvania, USA, 1998.

7) the distribution of the verb types and temporal marking varies with age; i.e., age is a factor in the emergence, comprehension and use (production) of verb types, and

8) the link between aspect marking and verb semantics may depend also on language-specific factors.

5. The Study

The present study examines the influence of the role of lexical aspect on the acquisition of the perfective, imperfective and Arabic active participle by Arab children. The study describes the acquisition and use of these forms by three children. Since these forms are verbs, they have temporal schemas that determine their use; they can serve as forms against which the Lexical Aspect Hypothesis can be tested; especially the AP, given its lexically-based polarized aspectual meanings described earlier (section 3.2). The AP was also considered for investigation because of its formal properties: simplicity, transparency, productivity⁽⁵⁷⁾ and its semantic properties: the aspectual concepts and values it conveys (as described above), which are claimed to be innate.⁽⁵⁸⁾ Because of these properties, the Arabic active participle form was expected to be picked up early by Arab children. It was hypothesized, however, that its emergence and use would be determined by the aspectual types of its source verbs congruent with the (Lexical) Aspect Hypothesis.

5.1. Subjects and Procedures

Utterances of three Arab children, Hibah, Amani and Amina, who are 2.9, 4.5 and 5.6 years old, respectively, were tape-recorded and/or observed for a month, while engaged in natural conversations among themselves, with their mother, and/or other children and adults. As sisters, these three girls have similar exposure to Gulf Arabic. The taped and observed utterances were transcribed for analysis. The AP forms were first counted by token (frequency) and type. They were then compared and contrasted in reference to the distribution of the two main verb forms, i.e., the Perfective (Pfv), and the Imperfective (Ipfv) verbs.

5.2 Findings

5.2.1 The AP Form and Lexical Aspects

The analysis of the children's utterances has revealed that the frequency of the AP forms differs from child to child: it increases by age, as Tables 3, and 4, clearly show. The three children produced 200 APs: 15 by Hibah, 65 by Amani, and 120 by Amina, yielding percentages of 7.5%, 32.5% and 60%, respectively.

⁽⁵⁷⁾ For a discussion of these features in regarding linguistic forms by children, see E. Clark, *The Lexicon in Acquisition* (Cambridge: Cambridge University Press, 1993) chapters 5-7.

⁽⁵⁸⁾ M. Olson, A. Weinberg, J. Lilly, J. and G. Drury, "Mapping Innate Lexical Features to Grammatical Categories: Acquisition of English -ing and -ed" in *Proceedings of CogSci98, University of Wisconsin at Madison, 1998*, 110-113 (note 4, above).

Table 3. Frequencies and Percentages of the AP for the Three Children

Hibah	15/200 (7.5%)
Amani	65/200 (32.5%)
Amna	120/200 (60%)

The children's use of the verb forms, i.e., the two basic verbs, the perfective and the imperfective, like the AP, increases by age.⁽³⁹⁾ As Table 4 shows, the total of the three children's verbal forms is 1412: 251 by Hibah (17.77%), 460 by Amani (32.58) and 701 by Amna (49.65%).

Table 4. Frequencies and Percentages of the Verb Forms for the Three Children

Hibah	251/1412 (17.77%)
Amani	460/1412 (32.58%)
Amna	701/1412 (49.65%)

Tables 3 and 4 indicate that the three children's use of the verbal forms in general (the two main verbs – the Pfv and the Ipv - and the AP) increases by age (recaptured in Table 5): reflecting that the acquisition of verb morphology is a developmental process.

Table 5. Percentages of Verbal Forms for the Three Children

	Total Verbal Forms	
Hibah	266/1612	(16.5%)
Amani	525/1612	(35.57%)
Amna	821/1612	(51%)

As Table 6 below shows, Hibah produced 266 verbal forms, 15 of which are AP forms (5.64%). Amani produced 525, 65 of which are AP forms (12.38 %) and Amna produced 821 verbal forms, 120 of which are AP forms (15.07%). So the percentage of the 200 APs in the 1612 verbal forms produced by the three children equals 12.41%; i.e., 12.41% of the children's verbal forms are AP forms.

Table 6. Frequency of the APs as Used by the Three Children

	Verbal Forms	AP Forms	Percentage of AP
Hibah	266	15	05.64 %
Amani	525	65	12.38 %
Amna	821	120	15.07 %
Total	1612	200	12.41%

In addition to the differences in the distribution of occurrence, i.e., frequency, the

⁽³⁹⁾ The distribution of the AP in relation to the perfective-imperfective verbs and the significance of that distribution will be addressed in next section (5.2.2).

three children differed with respect to the distribution of the aspectual meanings associated with the AP form, as is shown in Table 7.

Table 7. The Acquisition and Use of the AP by the Three Children

	Atelic Situations		Telic Situations	
	State	Activity	Achievement	Accomplishment
Hibah	2/15 (13.33%)	8/15 (53.33%)	5/15 (33.33%)	0/15 (0.0%)
Amani	6/65 (9.25%)	33/65 (50.77%)	15/65 (23.08%)	11/65 (16.92%)
Amina	15/120 (12.5%)	42/120 (35%)	37/120 (30.83%)	26/120 (21.67%)

Table 7 shows the preference of the individual children of the aspectual meanings of the APs in terms of Vendler's categorization of verbs. For each child, the order of preference, according to the frequencies (and percentages) of the categories, is activity (53.33%, 50.77% and 35%, respectively), achievement (33.33%, 23.08% and 30.83%, respectively), accomplishment (0%, 16.92% and 21.67%, respectively) and state (13.33%, 9.25% and 12.5%, respectively), making activity the most favored category and state the least favored one, and achievement is more frequent than accomplishment in each child's language. These individual preferences of each child parallel the collective preference for all children, as is showed in Table 8.

Table 8. The Distribution of the Aspectual Categories for the Three Children

	State	Activity	Achievement	Accomplishment
Total Frequency for all children	23/200	83/200	57/200	37/200
Percentage of category to all APs	11.5%	41.5%	28.5%	18.5%

Table 8 shows that the most frequent category is activity (41.5%), next comes achievement (28.5%), followed by accomplishment (18.5%). The least frequent verb is state (11.50%). This indicates that children prefer to talk about processes (activity, achievement, and accomplishment) rather than about states. They produced 177 APs of process verbs (88.5%) and only 23 APs of state verbs (11.5%). This preference may reflect these children's underlying state-process distinction, which is claimed to be a fundamental parameter in children's acquisition of verbal forms.¹⁴⁰ Similarly, the different percentages of achievement verbs (28.5%) and accomplishment verbs (18.5%) indicate that children prefer to talk about punctual events to non-punctual events. This

¹⁴⁰ D. Bickerton, *Roots of Language* (Ann Arbor: Karoma Publishers, 1981), 155, 161; R. Berman, "A Crosslinguistic Perspective: Morphology and Syntax," in P. Fletcher and N. Garman, eds., *Language Acquisition* (Cambridge: Cambridge University Press, 1986), 429-47.

difference can suggest that children underlyingly mark the punctual-nonpunctual distinction, which is claimed to be an innate acquisition mechanism by children.⁽⁴¹⁾

5.2.2 The AP Form and the Perfective-Imperfective Verbs

As was mentioned earlier, the distribution of the AP forms of the three children seemed to correlate with the distribution of the other verbal forms, namely the two primary verbs, Pfv (Perfective) and Ipfv (Imperfective) verbs; children's use of these forms increases by age (see Tables 4 and 5). A further analysis of the distribution of the main verbs has revealed that this relation is more significant than what it might have indicated initially.

As Table 9 shows, the three children produced 1612 verbal forms; 1412 verbs (87.59%) and 200 AP forms (12.41%). The verbs were 364 Pfv verbs (25.78%) and 1048 Ipfv verbs (74.22%).

Table 9. Distribution of Aspectual Forms for the Three Children

Pfv	Ipfv	AP	Total
364	1048	200	1612
22.6%	65%	12.41%	100%

Hibah produced 62 Pfv verbs (17.03%) and 189 Ipfv verbs (18%). Amani produced 115 Pfv verbs (31.6%) and 345 Ipfv (33%), and Amna produced 187 Pfv verbs (51.4%) and 314 Ipfv verbs (49%). See Tables 2-5 for the distribution of the AP forms used by these children. Table 10 summarizes the distributions of the forms.

Table 10. Distribution of Aspectual Forms for Each Child

Child	Pfv verb	Ipfv verb	AP form
Hibah	62/364 (17.03%)	189/1048 (18%)	15/200 (7.5%)
Amani	115/364 (31.6%)	345/1048 (33%)	65/200 (32.5%)
Amna	187/364 (51.4%)	514/1048 (49%)	120/200 (60%)

As for the use of each form by the three children, the following statistics emerge:

1. Hibah produced 266 verbal forms: 62 Pfv verbs (23.12%), 189 Ipfv verbs (71%), and 15 APs (5.64%). Her verbal forms altogether represent 16.5% of the total forms of the three children ($266/1612 = 16.5\%$).
2. Amani produced 523 verbal forms: 115 Pfv verbs (30%), 345 Ipfv (65.71%) and 63 APs (12.38%). Her verbal forms altogether represent 32.57% of the total forms of the three children ($523/1612 = 32.57\%$).
3. Amna produced 821 verbal forms: 187 Pfv verbs (22.8%) 514 Ipfv verbs (62.6%)

⁽⁴¹⁾ Bickerton, *Roots*, 161-72; Dixon, *Where Did I Come From?*, 14.

and 120 APs (14.6%). Her verbal forms altogether represent 51% of the total forms of the three children (821/1612 = 51%).

Table 11 shows these frequencies and percentages of each verb form for each child in the *total distribution* of the verbal forms, including the APs.

Table 11. Total Distribution of Verbal Forms

	Pfv	Ipfv	AP	Total
Hibah	62/266 (23.31%)	189/266 (71%)	15/266 (5.64%)	266/1612 (16.5%)
Amani	115/525 (30%)	345/525 (65.71%)	65/525 (12.38%)	525/1612 (35.57%)
Amina	187/82 (23%)	514/821 (62.6%)	120/821 (14.6%)	821/1612 (51%)

Tables 9-11 show that the Ipvf verb, compared to the Pfv, is of a very high frequency in the child's use of the verbal forms, comprising 65% of the total verbal forms (1048/1612) and 75% (1048/1412) in relation to the Pfv-Ipvf forms. This is interesting and significant from an ontogenetic perspective. It adds further support from child's language acquisition to the claim that the Ipvf verb in Arabic is the basic form, morphologically and semantically, which makes it the most frequent verb form in the child's language as well as in Arabic discourse.⁽⁴²⁾ That is, because it is unbounded for temporality (tense and aspect), it is salient in the child's expressions of temporality, where he/she relies on the context and lexical temporal forms (e.g., time words and *bi*-verbs) for delimiting his/her meanings and intentions.

Furthermore, what these tables suggest is that, unlike the oldest child, Amina, whose interim grammar is closer to a complete control of the Ipvf-Pfv opposition (i.e., adult-like level of acquisition), and use of the AP forms, the younger children (Hibah and Amani) appear to lack such control. Amani's Ipvf-Pfv distinction is approximating the adult grammar, and thus her AP is emerging to be extended to its perfect meaning. However, Hibah, the youngest of the three, is still far away from controlling the aspectual opposition of the verb, which is affecting the full acquisition of the AP-form.

Finally, as was shown above, the distribution of the AP forms of the three children seemed to correlate with that of the two primary verbs, Pfv, and Ipvf verbs. Given that the use and acquisition of the AP, as indicated by its frequency of occurrence, relates to aspectual meanings of the underlying verb of the AP form (see Table 7), does the correlation between the AP and the verb forms also mean that the child use of the Pfv/Ipfv verbs will show a relationship between the verb form (grammatical aspect) and the verb type (lexical aspect) observed in the distribution of the AP form? As Table 12

⁴² See A. Al-Tajer, "Temporality in Arabic Grammar and Discourse," unpublished Ph.D. Dissertation, University of California, Los Angeles, USA, 1991, 122-23.

shows, the answer to this question is apparently positive; there seems to be a relationship between the child's use of the perfective and imperfective verbs and Vendler's categorization of events.

Table 12. Distribution of Aspectual Markings for the Three Children

	State	Activity	Achievement	Accomplishment	Total
Hibah	34 (13.36%)	134 (53.39%)	83 (33.07%)	0 (0%)	251
Amani	43 (9.35%)	233 (50.65%)	107 (23.26%)	77 (16.74%)	460
Amina	86 (12.27%)	247 (35.23%)	214 (30.53%)	153 (21.83%)	701

Table 12 shows the preference of the individual children of the aspectual meanings of the verbs in terms of Vendler's types of verbs. For each child the order of preference, according to the frequencies (and percentages) of the categories, is activity (53.39%, 50.65% and 35.23%, respectively), achievement (33.07%, 23.26% and 30.53%, respectively), accomplishment (0%, 16.74% and 21.83%, respectively), and state (13.36%, 9.35% and 12.27%, respectively), making activity verbs the most favored verb type and state the least favored verb type, and verbs of achievement are more frequent than verbs of accomplishment in each child's language. These individual preferences of each child parallel the collective preference for all children, as is show in Table 13.

Table 13. Distribution of Verb Types in the Verb Forms for All Children

State	Activity	Achievement	Accomplishment	Total
164	614	404	230	1412
11.61%	43.48%	28.61%	16.30%	100%

Table 14 shows the distribution of verb types for the Imperfective verb and the Perfective verb. The frequencies of occurrence of the verbs indicate a very close similarity between the use of all verb forms in terms of Vendler's verb types.

Table 14. Distribution of the Types of the Children's Imperfective and Perfective Verbs

Verb Type	Ipfv Verb	Pfv Verb	Total
State	121 (11.55%)	43 (11.81%)	164 (11.61%)
Activity	458 (43.70%)	156 (42.86%)	614 (43.48%)
Achievement	299 (28.53%)	105 (28.85%)	404 (28.61%)
Accomplishment	170 (16.22%)	60 (16.48%)	230 (16.30%)

Table 15 shows the distribution of verb types for each child in terms of the Imperfective and Perfective verbs. As in Table 11 above, there is a very close relation

between Vendler's verb types and the use of verb forms by the children as well.

Table 15. Distribution of Aspectual Markings for the Three Children

Child	Verb	State	Activity	Achievement	Accomplishment	Total
Hibah	lpfv	25 (13.23%)	101 (53.44%)	63 (33.33%)	0 (0%)	189
	Pfv	9 (14.52%)	33 (53.23%)	20 (32.25%)	0 (0%)	62
Amani	lpfv	32 (9.27%)	175 (50.72%)	80 (23.19%)	58 (16.82%)	345
	Pfv	11 (9.56%)	58 (50.44%)	27 (23.48%)	19 (16.52%)	115
Amina	lpfv	64 (12.45%)	182 (35.40%)	156 (30.35%)	112 (21.80%)	514
	Pfv	23 (12.30%)	65 (34.76%)	58 (31.02%)	41 (21.92%)	187
						1412

5.3 Discussion

The linguistic behavior of the three Arab children with regard to the use of the Arabic verbal forms, the perfective, imperfective, and the active participle, in particular, is consistent with the findings of the linguistic research on child language acquisition. Children of different languages have been found to initially use general purpose terms such as 'make', 'go', and 'give' to denote basic activities, then the accomplishment sense with verbs like 'make'.⁽⁴³⁾ Furthermore, children, according to Clark,⁽⁴⁴⁾ understand the difference between *state* and *process* types of predicates and the 'action type' of the event, e.g., punctual vs. durative, which gets marked for temporal reference according to the specific markings of the given language. As was mentioned earlier, Bickerton⁽⁴⁵⁾ argues that the perception of state-process distinction is innate and essential for the acquisition and use of temporal verbal forms by children.

Reviewing the literature on L₁ acquisition studies from a crosslinguistic perspective, Berman⁽⁴⁶⁾ observes that "children divide up some areas of semantic space along similar lines in quite different languages." Accordingly, she points out, certain basic semantic distinctions are made early on and later get refined to fit the full and specific (sub)categorization of the given language.

⁽⁴³⁾ Berman, "Perspective," 433.

⁽⁴⁴⁾ E. Clark, "Meanings and Concepts," in P. Mussen ed., *Carmichael's Manual of Child Psychology*, Vol. 3, 4th ed. (New York: John Wiley and Sons, 1983), 390-425.

⁽⁴⁵⁾ See notes 42 and 43. Cf. G. Cziko, "A Review of the State-Process and Punctual-Nonpunctual Distinctions in Children's Acquisition of Verbs," *First Language*, 9 (1989), 1-31.

⁽⁴⁶⁾ Berman, "Perspective," 433.

Weist⁽⁴⁷⁾ argues that aspectual distinctions, such as the one between completion and progressiveness, will be coded rapidly in the morphology of the child's language acquiring a language that marks such aspects. However, he later maintains that the acquisition rate will depend in part on the manner in which aspect is coded in the surface structure of the language.⁽⁴⁸⁾ The Arab child is faced with a very complex aspectual coding for the Pfv-Ipfv opposition, which is not only fused with the subject markings, but also these markings are, to a great extent, distinct in each aspect.⁽⁴⁹⁾ Moreover, to make the task much more complex to the child, the major aspectual marking is an internal vocalic change, which is totally unpredictable. These two factors may explain the late acquisition of the grammatical aspectual distinction, i.e., Pfv-Ipfv, which in turn serves as a prerequisite to the emergence and management of the functionally polarized Active Participle in the child's language. When the AP starts to appear, however, lexical aspect, i.e., verb internal temporal feature, plays a major role in its distribution of use as well as in its emergence. That is, the AP appears initially as a progressive form for verbs that are atelic (static and durative); later it extends to verbs with definite ends or results (telic verbs), where Achievement verbs are preferred to Accomplishment verbs because of their punctuality.

These two observations entail that telicity and punctuality are influential parameters in the acquisition of (verbal) temporality. The late use of the AP with telic verbs, as was mentioned above, entails the late acquisition of it as a marker of perfect aspect. Notwithstanding, this may have little, if any, relationship with the Arabic AP as a form. The late acquisition of the perfect forms have been observed with children acquiring other languages,⁽⁵⁰⁾ apparently, due to the complex configuration of the time concept of the perfect aspect,⁽⁵¹⁾ and to the various functions of the perfect form.⁽⁵²⁾ Furthermore, in Arabic, the Pfv form of the verb, with the appropriate time adverbials, is usually used to express the perfect aspect instead of the AP form⁽⁵³⁾, resulting in low distribution of the AP in the input to the Arab children, and thus in their output.

6. Summary and Conclusion

This exploratory study has provided further evidence for the effect of lexical

⁽⁴⁷⁾ R. Weist, "Tense and Aspect," in P. Fletcher and M. Garman, eds., *Language Acquisition* (Cambridge: Cambridge University Press, 1986), 356-73.

⁽⁴⁸⁾ See Weist, Wysocka and Lyytinen, "Perspectives," 67-92.

⁽⁴⁹⁾ Comrie, *Aspect*, 85.

⁽⁵⁰⁾ Weist, "Tense," 369-70.

⁽⁵¹⁾ Weist, *Ibid.*, 369.

⁽⁵²⁾ For these two observations, see Comrie, "Aspect," 95, and B. Comrie, *Tense* (Cambridge: Cambridge University Press, 1985), 77-82. Thus, the late acquisition of the perfect aspect by children can also be attributed to its ambiguity, see, for example, L. Michaelis, "The Ambiguity of the English Present Perfect," *Journal of Linguistics*, 30 (1998), 111-57.

⁽⁵³⁾ Al-Najjar, "Syntax," 17. Similarly in English, the simple past is often substituted for the perfect, cf. Johnson, "The Emergence of the Present Perfect Verb Form: Semantic Influence on Selective Imitation," *Journal of Child Language*, 12 (1985), 325-52.

aspect, the inherent aspectual semantics, in the acquisition and use of verbal forms. As the findings of the present study indicate, the semantic features of the underlying verb influence the acquisition and use of the Arabic active participle (AP). The Arab child starts using the AP for ongoing and open situations, as manifested in the speech of the younger children (Hibah and Amani, see Tables 6 and 7), then for situations perceived to be over or completed, whose results are relevant to the time of the utterance, or the specific time reference is not an issue, i.e., situations characterized as perfect of experience.⁽⁵⁴⁾ Both types of situations are evident in the speech of the older child (Amina, see Tables 6 and 7). This is consistent with the claim that children acquire the meanings of words,⁽⁵⁵⁾ including verbs, componentially; i.e., by adding features to earlier lexical entries.

Although full acquisition of the Arabic Active Participle seems to be late, its first emergence and distribution tend to be based on the intrinsic properties of its underlying (source) verb. That is, the child's use of the AP and the two canonical verbs (perfective and imperfective) appears to relate to their aspectual classes. The child starts using these forms for continuative/progressive aspect with verbs that are considered stable (no change or result is implied). When the child acquires the sense of completion and pastness and expressed by the perfective verb, he/she uses the AP for verbs that have definite results to encode perfect aspects, namely "current perfect and experience perfect". Therefore, the incorporation of the AP in the child's interim grammar of verbal forms appears to be through the process of addition first then restructuring to make it fit in the tense-aspect system of Arabic, where a semantic overlap between the three (verbal) forms exists.

Finally, a longitudinal study with a larger number of children is needed to describe the developmental path of the acquisition of Arabic verbal forms by Arab children, preferably from a number of different local dialects. A related line of inquiry might test experimentally the hypothesis of the role of lexical aspect looking cross-sectionally at the role of age, sex, and socio-economic status. An experimental study for this purpose can use puppets, pictures, or role-playing techniques to elicit verbal data from children.

⁽⁵⁴⁾ See Comrie, *Aspect*, 54.

⁽⁵⁵⁾ Clark, *Lexicon*, 177-79.

الوجهة المفرداتية وتعلم صيغ الفعل في اللغة العربية

أحمد فتح الله التاروتي

أستاذ مساعد، قسم اللغات الأجنبية، كلية التربية، جامعة الملك فيصل،

الأحساء، المملكة العربية السعودية

ملخص البحث. تؤكد نظرية الوجهة المفرداتية Lexical Aspect Hypothesis في تعلم اللغة الأولى، أن خصائص الفعل الذاتية تحدد تعلم الطفل الأفعال وتصريفاتها بالنسبة للزمن والوجهة. تبحث هذه الدراسة في دور الوجهة المفرداتية في تعلم اسم الفاعل في اللغة العربية بواسطة الأطفال العرب. أثبتت نتائج الدراسة أن وجهة الفعل المفرداتية، حسب تصنيف فندلر Vencler، تحدد بروز اسم الفاعل وتطوره في لغة الطفل. يبدأ الطفل باستعمال اسم الفاعل للتعبير عن استمرارية الحدث بالأفعال المفتوحة المدى telic verbs، التي ليس لها نهاية ذاتية أو نتيجة ملموسة، الموسومة بأفعال النشاط activity verbs. وبعد أن يتعلم الطفل مفهوم الإكمال ويعبر عنه بفعل الماضي، يبدأ باستخدام اسم الفاعل للتعبير عن تدمر الحدث بالأفعال المغلقة ذات النهاية الواضحة والنتيجة الملموسة telic verbs. وتأثير الوجهة المفرداتية واضح أيضاً في تعلم الطفل الفعلين المضارع والماضي؛ فأغلب أفعال الطفل الأولى هي الأفعال المضارعة المفتوحة المدى التي ليس لها غاية أو نهاية محددة، بينما يبدأ باستخدام صيغة الماضي للأفعال قصيرة المدى ذات الغاية والنهاية الملموسة، وهي الموسومة بأفعال الإنجاز achievement verbs وأفعال الإنهاء accomplishment verbs.