ADHD and adolescent EFL learners' speaking complexity, accuracy, and fluency in English

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A B S T R A C T

This study was an attempt to investigate the relationships among Attention-Deficit/ Hyperactivity Disorder (ADHD) and speaking complexity, accuracy, and fluency (CAF) among Iranian EFL learners. To fulfill the purpose of this study, the teachers and parents of 593 male students were given the Farsi version of the CSI-4 ADHD diagnostic questionnaire, out of which 61 students scored above the cut-off score of nine in both the teacher and parent questionnaires. These students then sat for a sample speaking section of the Key English Test (KET); the interviews were scored by two raters according to the measures of CAF. The data were thus analyzed and the results revealed a significant positive correlation between ADHD and speaking fluency; in contrast, a significant negative correlation was observed between ADHD and speaking complexity and ADHD and speaking accuracy. The regressions disclosed that ADHD is a significant predictor of complexity, accuracy, and fluency in speaking. The findings of this study have pedagogical implications for both parents and teachers in contact with students with ADHD with respect to the importance of identifying such students and thus planning and monitoring their progress.

Keywords: ADHD; speaking; speaking complexity; speaking accuracy; speaking fluency

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A R T I C L E   H I S T O R Y

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Introduction

One of the cognitive developments expected from a healthy individual is learning a language and being able to master the skills of listening, speaking, reading, and writing. Among these four skills, speaking is of concern to many L2 learners in the world as it is considered the most challenging of the four skills given the fact that it involves a complex process of constructing meaning (Celce-Murcia & Olshtain, 2000; Nowicka & Wilczyn'ska, 2011; Sadeghi Beniss & Edalati Bazzaz, 2014; Wood, 2007).

Speaking

Within the process of speaking, speakers make decisions about why, how, and when to communicate depending on the cultural and social context in which they are speaking. Given these defining aspects of the complex and intricate nature of spoken discourse, a growing body of research conducted over the last few decades has recognized speaking as an interactive, social, and contextualized communicative event (Dewaelea & Furnham, 2000; Gilabert, 2007; Kawauchi, 2005; Kim, 2009; Lotfipour-Saedi, 2015).

As speaking is considered the most complicated skill and, at the same time, a highly frequent modality of human expression, there is abundant research on speaking from various perspectives; one such perspective initiated in the 1980s with Brumfit (as cited in Housen & Kuiken, 2009) pioneering the dichotomy of fluent versus accurate L2 speakers and fluency-oriented and accuracy-oriented activities (Hammerly, 1991) to investigate the development of oral L2 proficiency in classroom contexts.

Later on, the third component of complexity was added in the 1990s after Skehan (1989) proposed an L2 model which included complexity, accuracy, and fluency (CAF) as the three principal proficiency dimensions. There are of course numerous attempts at defining each of the three constructs (Vercellotti, 2015). Ellis (2009, p. 475) defines complexity as, "the capacity to use more advanced language, with the possibility that such language may not be controlled so effectively" while Pallotti (2009, p. 592) refers to complexity as "the most problematic construct of the CAF triad because of its polysemous nature", reasoning that the same term is used to refer to the properties of both tasks and language performance.

Accuracy which is "probably the oldest, most transparent, and most consistent construct of the triad" (Housen & Kuiken, 2009, p. 463) is the "extent to which the language produced in performing a task conforms with target language norms" (Ellis, 2003, p. 339).

As for fluency, which can be defined as "the capacity to produce speech at normal rate and without interruption" (Skehan, 2009, p. 510), speech language researchers (e.g. Cucchiarini, Strik, & Boves, 2002; Kormos & Dénes, 2004; Lennon, 1990; Towell, Hawkins, & Bazergui, 1996; Yang, 2014) have mainly analyzed oral production data in order to determine exactly which quantifiable linguistic phenomena contribute to perceptions of fluency in L2.

ADHD

Closely related to CAF in speaking – which despite the many studies conducted requires much further work (Larsen-Freeman, 2009) – are various personality attributes arising from both psychological and physiological traits; one such trait is attention-deficit/hyperactivity disorder (ADHD). This disorder has been around for a very long time (Anastopoulos & Shelton, 2001; Barkley, 2002; Denckla, 2010; Gillberg, 2003; Leventakou et al., 2016; Riccio, Wolfe, Romine, Davis, & Sullivan, 2004).

ADHD is characterized by the fourth edition of the Diagnostic Statistical Manual of Mental Disorders of the American Psychiatric Association as a persistent neurobiological disorder of inattention or hyperactivity-impulsivity that is more severe and persistent than typically observed in individuals at comparable stages of development. The central characteristics of ADHD include hyperactivity-impulsivity and/or inattention (Arnett, Pennington, Young, & Hankin, 2016). These behaviors may surface mildly, or may have a significant impact on the person's life, making it difficult to function. ADHD can further affect cognitive and behavioral functioning which can lead to agitation and anxiety (Andersen Helland, Posserud, Helland, Heimann, & Lundervold, 2016; Honos, 2005).

In a country such as the United States where ADHD is monitored somewhat rigorously, it is considered as the most common mental disorder of childhood and affects 7.5 percent of school-age children (Fine, 2002; Stolzer, 2007). ADHD can be a lifelong impairment, beginning in childhood and lasting through adulthood estimated to affect 4.4 percent of the adult population in the United States (Kessler et al., 2006) and 5-10 percent of school-aged children worldwide (Biederman, 2005). It is evident in various cultures around the world with differing rates of prevalence (Efstratopoulou, Janssen, & Simons, 2015).

Individuals with ADHD often fidget and play with anything in their immediate environment. They may be viewed as always "bouncing off the walls" (Kaslow, 1996, p. 198). Others talk fast, and seem as though they are "on the go" (DeRuvo, 2009, p. 16).

The trend of research and clinical identification of ADHD has undergone immense change over the years (Barkley, 2006; Douglas, 2005; Guldberg-Kjär & Johansson, 2015; Mayes & Rafalovich, 2007; Nigg, 2005); as a result, it is becoming more and more evident that children diagnosed with ADHD have significant language problems (Barkley, 2006; Brossard-Racine, Shevell, Snider, Ageranioti Bélanger, Julien, & Majnemer, 2015; Papaeliou, Maniadaki, & Kakouros, 2015).

Evaluating the language of children with ADHD is of course no easy task (Cohen, Davine, Horodezky, Lipsett, & Isaacson, 1993; Little, Hart, Schatschneider, & Taylor, 2016; Sparks, Humbach, & Javorsky, 2008) and as some students classified as having ADHD exhibit both attention and L1 learning difficulties, some educators like Hodge (1998) have speculated that problems related to ADHD may affect L2 learning as well.

Inspired somewhat by the fact that one of the two researchers of this study is actually diagnosed with ADHD, the two researchers sought to investigate whether there was an impeding or accelerating relationship among ADHD and speaking complexity, accuracy, and fluency among EFL learners. Hence, the following null hypotheses were raised:

1. There is no significant relationship between ADHD and speaking complexity among EFL learners.

2. There is no significant relationship between ADHD and speaking accuracy among EFL learners.

3. There is no significant relationship between ADHD and speaking fluency among EFL learners.

4. ADHD is not a significant predictor of speaking complexity among EFL learners.

5. ADHD is not a significant predictor of speaking accuracy among EFL learners.

6. ADHD is not a significant predictor of speaking fluency among EFL learners.

Method

Participants

A total of 593 elementary students of English attending the Birjand branch of Iran Language Institute (ILI) – a large language school with branches all over the country – were selected based on convenient sampling. Both the mothers and the teachers of the above 593 students were asked to fill in the CSI-4 ADHD diagnostic questionnaire (described in detail below) in order to identify the students with ADHD among this sample. The students were all males and their age ranged from 10 to 14. Once the filled in questionnaires were gathered, a total of 61 students among the 593 were identified through the responses to the questionnaire as those bearing ADHD (the identification procedure is discussed in detail below). Furthermore, two raters (both researchers in this study) also participated in this study by conducting interviews with the 61 participants using a unified speaking test (again described in detail below).

Instrumentation

An ADHD questionnaire, a series of scales, and the speaking section of a sample Cambridge Key English Test (KET) were utilized in the process of this study, which are explained in detail below.

CSI-4 ADHD Diagnostic Questionnaire

The CSI-4 ADHD diagnostic questionnaire developed based on the Diagnostic and Statistical Manual of Mental Disorders – IV Text Revised in 2000 (DSM-IV TR) was used in this study; it contains 18 Likert-type items in two questionnaires, one filled by the teacher and the other by a parent (of the learner). The test-retest reliability coefficient of the questionnaire (with a six-week interval) is reported to range between 0.70 and 0.89 for the teacher section and between 0.75 and 0.82 for the parent section (Angello et al., 2003). Furthermore, Hakimshooshtary, Chimeh, Najafi, Mohamadi, Yousefi-Nourayi, and Rahimi-Movaghar (2010) reported a reliability of 0.87 for the parents' section and 0.89 for the teachers' section.

This questionnaire has been designed for the 3-18 age group; it has a high internal consistency range of 0.93 to 0.95 (Hersen, 2006). The content validity of the Farsi version of both parts has been verified by Iranian psychiatrists (Abedi, Shirazi, & Hajebi, 2007). Naturally, those who score higher than the cut-off score are considered as those with ADHD. In order to increase the precision of the whole process and learn more about the technicalities of the questionnaire, the researchers consulted a psychiatrist prior to the administration and scoring of the CSI-4 to make sure whether there were any special procedures they had to follow in the administration and scoring of the questionnaire.

Applying either of the two types (the parents and teachers) would have been sufficient; yet, in order to decrease the chances of misdiagnosis, the researchers administered both the parent and the teacher parts. Understandably, the Farsi version had to be used as although the teachers had no problem filling the English version, many parents did not know English well enough. And as the researchers wanted to ensure maximal consistency, they had to administer the existing Farsi version to both groups.

In the process of scoring (never) and (sometimes) got a score of 0; and one score was given to (often) and (most of the time). Therefore, one's score could range between 0-18 for each questionnaire. After scoring the questionnaires, those learners who obtained higher than the cut-off score of nine in both sections (namely, the teacher and the parent sections) were considered as

learners with ADHD and the mean score of the teacher and the parent given to each learner was calculated as the final score.

Sample KET Speaking Section

The other instrument used in this study was the speaking section of the Key English Test (KET) which was administered to the 61 students with ADHD. The test consists of two parts; the first part takes 5-6 minutes. In this part, each participant interacted with the interviewer: using the language normally associated with meeting people for the first time and giving factual information of a personal kind (name, place of origin, occupation, family, etc). In the second part that took 3-4 minutes, two candidates interacted with each other. This involved asking and answering questions about factual information of a non-personal kind. Prompts were used to stimulate questions and answers which were related to daily life, leisure activities, and social life.

Data Collection Procedure

As stated above, the teachers and the parents of 593 elementary students of English selected randomly were given the questionnaire and the filled questionnaires were gathered within a week. Next, the questionnaires were scored by the researchers based on the procedure discussed earlier and the mean score of each student given by the teacher and the mother was calculated. Subsequently, those students whose scores were higher than the cut-off score of nine in both questionnaires were considered as having ADHD. These 61 students with ADHD were thence interviewed by one of the researchers on two days; the interviews were recorded digitally and later analyzed by two raters whose inter-rater reliability had been established a priori according to the measures of CAF described below.

Measuring Oral Complexity

In order to measure oral complexity, the proportion of clauses to T-units was measured. A T-unit was first defined by Hunt (1966) as "one main clause plus whatever subordinate clauses happen to be attached or embedded with it" (p. 735) and identified as being a reliable measure correlating well with other measures of complexity by Foster and Skehan (1996). Accordingly, complexity can be one or higher than one; hence, if every T-unit contains only one clause, then the minimum value of one indicates an absolute lack of complexity in speech.

The following is a transcribed section of the KET interview among two students Alireza and Benyamin (both names are imaginary) and the Interlocutor (I) which will be used as an example of how speaking complexity and accuracy were measured in this study. First, the measurement of complexity is elaborated after the example.

… shows pauses less than one second

…+ shows longer pauses

I)   *OK here is some information about a football game…. Alireza you don't know anything about the football game, so please ask Benyamin some questions about it. Do you understand?*
A & B) *Yes.*
A)   *…where…+ where do…+ you football game?*
B)   *…I go to Shahpar field.*
A)   *…What date?*
B)   *…Saturday Bahman 18th.*
A)   *…when…+ it start?*
B)   *……+ It start in 4 pm.*
A)   *…How much the ticket?*
B)   *…Free, it's free.*
I)   *OK, thank you. Now Benyamin, Alireza has some information about Abiz Fast Food Restaurant. I'd like you to ask him about the restaurant. Here are some words to help you.*
B) *When… whe…where is Abiz Restaurant?*
A) *…+It's in…on Modarres Street.*
B) *What food it has?*
A) *It has sandwich and Pizza.*
B) *…+Is it open Fridays?*
A) *…+ It's opens at 6 pm.*
B) *…+ What time it close?*
A) *11 pm.*
I) *OK, thank you very much. …That's the end of the test.*

In this interview, for both interviewees, the number of clauses equals the number of T-units and it shows a very low complexity measure of 1 which demonstrates that hardly any complex sentences were spoken.

Measuring Oral Accuracy

Accuracy, in this study, was measured by the global units expressed in terms of the proportion of error-free T-units to all T-units (EFT/T). The proportion is expressed as percentage and thus could range between 0 to 100 percent. As Bardovi-Harlig and Bofman (1989) point out, such measures do not distinguish between type of errors, severity of errors, or number of them. However, as Ellis and Barkhuizen (2005) note that global and local measures of accuracy tend to correlate closely, global measures were selected which, based on Skehan and Foster's (1999) argument, represent a more realistic measure of accuracy.

Going back to the previous transcribed example, student A produced eight T-units but only three of them were grammatically correct; hence, the accuracy score of this student was 37.5 percent. On the other hand, five T-units out of eight were correct in the sentences produced by student B; accordingly, his speech accuracy measure was 62.5 percent.

Measuring Oral Fluency

To determine the fluency level of the students, four factors were analyzed. These factors were used in different studies on speaking fluency (e.g. Breiner-Sanders, Lowe, Miles, & Swender, 2000; Chambers, 1997; Skehan & Foster, 1999; Tavakoli & Foster, 2008) which include:

(1)   The number of utterances that were abandoned before being complete (false starts);
(2)   The number of repetitions of words, phrases, or clauses (repetitions);

(3)   The number of lexicosyntactic repairs or reformulations for correction (reformulations); and

(4)   The number of lexical items that are substituted for another (replacements).

In this way, higher measures show higher dysfluency; hence, all dysfluency measures were subtracted from 100 to obtain the fluency measures and the range of fluency measure was between 0 and 100.

Results

Descriptive Statistics

Table 1 below shows the descriptive statistics of the ADHD questionnaire administration to the mothers and teachers of the 593 students.

Table 1
Descriptive Statistics of the Obtained Scores on the CSI-4

	N	Minimum	Maximum	Mean	Std. Deviation
ADHD Scores – Mothers	593	1.00	17.00	5.207	3.0744
ADHD Scores – Teachers	593	1.00	18.00	5.334	3.3591
ADHD Scores – Mean	593	1.00	17.50	5.271	3.1155
Valid (listwise)	593				

Among the 593 students whose teachers and mothers answered the CSI-4, 61 were given a score above nine meaning that they could be diagnosed clinically with ADHD. The scores of these 61 students are presented in Table 2 below. As is seen in this table, the mean and the standard deviation of the scores stood at 11.992 and 2.184, respectively. Furthermore, the scores represented normalcy with the skewness ratio falling between ±1.96 meaning that parametric tests of inferential statistics could be run on the scores.

Table 2
Descriptive Statistics of the Scores of the 61 Students with ADHD on the CSI-4

	N	Minimum	Maximum	Mean	Std. Deviation	Skeweness
Scores of the 61 Students with ADHD	61	9.00	17.00	11.992	2.18421	1.679
Valid (listwise)	61					

Once the 61 students with ADHD were identified, they sat for a sample KET speaking section. First, the descriptive statistics of the mean of the scores given by the two raters who enjoyed an acceptable inter-rater reliability (r = 0.962, p = 0.000 < 0.05) to the oral complexity, accuracy, and fluency of the 61 students with ADHD are presented in Table 3 below.

Table 3
Descriptive Statistics of the Mean Scores of CAF Given by the Two Raters

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness
Mean Complexity	61	63.00	93.00	80.065	6.47075	-1.35
Mean Accuracy	61	1.000	1.330	1.0977	.097978	-1.66
Mean Fluency	61	15.6	90.0	54.226	20.9053	0.50
Valid (listwise)	61					

As is evident from Table 3 above, the skewness ratios of all the three sets fell within the acceptable range of ±1.96; hence, all sets represented normalcy.

Testing the First Three Hypotheses

The Pearson correlation test was run on the four sets of scores obtained by the 61 students (ADHD and CAF). As is evident in Table 4 below, there is a significantly negative correlation at the 0.05 level (r = -0.296, p = 0.02 < 0.05) between the students' complexity of speaking and ADHD, meaning that the first null hypothesis was rejected.

Table 4
Correlation of the Students' Complexity, Accuracy, and Fluency of Speaking and ADHD

		Fluency Mean Score	Complexity Mean Score	Accuracy Mean Score	Scores of Students with ADHD
Fluency Mean Score	Correlation	1	-.026	.066	.315*
	Sig. (2-tailed)		.840	.611	.013
	N	61	61	61	61
Complexity Mean Score	Correlation	-.026	1	.328*	-.296*
	Sig. (2-tailed)	.840		.010	.020
	N	61	61	61	61
Accuracy Mean Score	Correlation	.066	.328*	1	-.320*
	Sig. (2-tailed)	.611	.010		.012
	N	61	61	61	61
Scores of Students with ADHD	Correlation	.315*	-.296*	-.320*	1
	Sig. (2-tailed)	.013	.020	.012	
	N	61	61	61	61

*. Correlation is significant at the 0.05 level (2-tailed).

According to Table 5 below, R^2 (or common variance) which is the effect size for correlation came out to be 0.088. Common variances lower than 0.1 are considered to be small effect size (Larson-Hall, 2010).

Table 5
Correlation Report

No of cases	R	Sig (2-tailed)	R²
61	-.296	.020	.088

Going back to Table 4, there is a significantly negative correlation at the 0.05 level ($r = -0.320$, $p = 0.012 < 0.05$) between the students' accuracy of speaking and ADHD; hence, the second null hypothesis was rejected as well. Again, according to Table 6 below, R^2 came out to be 0.10. Such common variances are considered to be a medium effect size (Larson-Hall, 2010).

Table 6
Correlation Report

No of cases	R	Sig (2-tailed)	R²
61	-.320	.012	.10

Finally, Table 4 shows that there is a significantly positive correlation at the 0.05 level ($r = 0.315$, $p = 0.013 < 0.05$) between the students' fluency of speaking and ADHD which means that the third null hypothesis was also rejected. And Table 7 below shows that the R^2 came out to be 0.10 which is a medium effect size (Larson-Hall, 2010).

Table 7
Correlation Report

No of cases	R	Sig (2-tailed)	R²
61	.315	.013	.10

Testing the Fourth Hypothesis

As for the fourth hypothesis stating whether the students' ADHD indices were a significant predictor of their complexity of speaking, a linear regression was run. Table 8 reports the results of the ANOVA ($F_{1,59} = 5.684$, $p = 0.02 < 0.05$) which proved significant.

Table 8
Regression Output: ANOVA Table

Model		Sum of squares	df	Mean square	F	Sig.
1	Regression	.051	1	.051	5.684	.020[a]
	Residual	.525	59	.009		
	Total	.576	60			

   a.   Predictors: (Constant), ADHD
   b.   Dependent Variable: Complexity of speaking

Table 9 demonstrates the standardized beta coefficient (B $=$ -0.296, $t =$ -2.384, $p =$ 0.02 < 0.05) which reveals that the model was significant meaning that the students' ADHD could predict their complexity of speaking. Hence, the fourth null hypothesis of the study was rejected.

Table 9
Regression Output: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Beta			
1	(Constant)	1.257	.068		18.497	.000
	ADHD	-.013	.006	-.296	-2.384	.020

a. Dependent Variable: Complexity of speaking

Testing the Fifth Hypothesis

The fifth hypothesis stated whether the students' ADHD indices were a significant predictor of their accuracy of speaking; another linear regression was run to test this hypothesis. Table 10 reports the results of the ANOVA ($F_{1,59} =$ 6.739, $p =$ 0.012 < 0.05) which proved significant.

Table 10
Regression Output: ANOVA Table

Model		Sum of squares	df	Mean square	F	Sig.
1	Regression	2688.097	1	2688.097	6.739	.012[a]
	Residual	23533.746	59	398.877		
	Total	25221.843	60			

   a.   Predictors: (Constant), ADHD
   b.   Dependent Variable: Accuracy of speaking

Table 11 demonstrates the standardized beta coefficient (B $=$ -0.32, $t =$ -2.596, $p =$ 0.012 < 0.05) which reveals that the model was significant meaning that the students' ADHD could predict their accuracy of speaking. Hence, the fifth null hypothesis of the study was rejected.

Table 11
Regression Output: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	*t*	Sig.
		B	Beta			
1	(Constant)	90.075	14.385		6.324	.000
	ADHD	-3.064	1.180	-.32	-2.596	.012

a. Dependent Variable: Accuracy of speaking

Testing the Sixth Hypothesis

As for the sixth and final hypothesis stating that the students' ADHD indices were not a significant predictor of their fluency of speaking, another linear regression was run. Table 12 reports the results of the ANOVA ($F_{1,59} = 6.494$, $p = 0.013 < 0.05$) which proved significant.

Table 12
Regression Output: ANOVA Table

Model		Sum of squares	df	Mean square	F	Sig.
1	Regression	249.109	1	249.109	6.494	.013a
	Residual	2263.128	59	38.358		
	Total	2512.238	60			

a.   Predictors: (Constant), ADHD
b.   Dependent Variable: Fluency of speaking

Table 13 demonstrates the standardized beta coefficient (B = 0.315, $t = 2.548$, $p = 0.013 < 0.05$) which reveals that the model was significant meaning that the students' ADHD could predict their fluency of speaking. Hence, the sixth null hypothesis of the study was rejected.

Table 13
Regression Output: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	*t*	Sig.
		B	Beta			
1	(Constant)	68.879	4.461		15.441	.000
	ADHD	.933	.366	.315	2.548	.013

a. Dependent Variable: Fluency of speaking

Discussion

The results of this study revealed a significantly negative correlation between ADHD and speaking complexity and this indicates that the higher the level of ADHD in learners, the less complicated their language. Because students with ADHD talk excessively, they try to use the simplest way to convey their messages so that they would not have to think about the structure of the sentences (i.e. the grammar they are using); they try to focus more on the meaning of the utterances for their working memory is much more limited than that of non-ADHD individuals.

The correlation between ADHD and accuracy turned out to be significantly negative too. As these learners have a limited attention span and working memory and because unplanned speaking requires extensive attention on the part of the speaker, learners with ADHD tend to have less error-free chunks.

The positive correlation observed between ADHD and speaking fluency, however, is perhaps due to the fact that when students with ADHD are in a language class, they are forced to speak in the foreign language. Hence, hyperactive/impulsive students who tend to talk excessively and are often on the go practice their speaking fluency so often by talking abundantly and, consequently, their fluency is accomplished at the expense of their speaking accuracy and complexity.

Furthermore, a number of researchers (e.g. Bygate, 1999; Skehan, 1998; Skehan & Foster, 1999) who subscribe to the view that the human attention mechanism and processing capacity are limited also see fluency as an aspect of L2 production which competes for intentional resources with accuracy, while accuracy in turn competes with complexity. Learners may focus (consciously or subconsciously) on one of the three dimensions to the detriment of the other two (Housen & Kuiken, 2009).

Another trend of research on ADHD is also backed up by the findings of the present study. According to one study (Seidman et al., 2006), the Anterior Cingulate Cortex (ACC) – a brain area located near the top of the frontal lobes and along the walls that divide the left and right hemispheres – decreases volumetrically as the level of ADHD rises up in individuals. When the ACC is smaller, individuals are not able to think about what they are saying as much as they should; hence, they make many mistakes and also the number of reformulations, repetitions, and replacements they present in their speaking drops down. These students know that they cannot wait and think while they are speaking and that is why they try to use a less complicated language to avoid making mistakes abundantly; as a result, the language they use is simpler.

Conclusion

Some 80% of children with ADHD are at risk for behavioral difficulties and academic performance problems, including lower than expected work completion rates (Barkley, 1998; DuPaul & Stoner, 1994). Approximately 25% of children with ADHD are also classified as having a learning disability as a result of deficits in the acquisition of academic skills (DuPaul & Stoner, 1994). These elevated risks for poor performance and academic achievement and also the findings of the present study suggest that students diagnosed with ADHD are in need of strategies to address social and academic problems associated with this disorder, especially in foreign language learning settings. Hence, it is advisable that teachers find different strategies – tailored for each specific context as there appears to be no single universal formula – to deal with the problems of these students and also teach these strategies to students with ADHD.

Poor judgment and planning abilities are some of the characteristics of a person with ADHD. Parents can thus step in and help plan for such students and monitor these plans as they are being performed by them. Furthermore, research has shown that parents of children with ADHD display more directive and commanding behavior, that is, showing more disapproval, overall negative behavior, and giving less rewards, resulting in more disharmony in the family and more parenting stress, which, in turn, lead to poorer long-term outcomes, both socially and academically, for children with ADHD (Hinshaw, Owens, & Wells, 2000; Johnston, 1996; Keown & Woodward, 2002). Hence, parents can care to understand these children and try to control their own reactions when dealing with these inattentive/hyperactive children.

It is worth noting that as the onset of ADHD in children can be at the age of four or five (Austin, Reiss, & Burgdorf, 2008), it is imperative that parents observe their children for the symptoms of ADHD by having in mind the items of the questionnaire.

Finally, the following recommendations for future research are based upon the results of this study. First, replicating this research with different samples including other age groups and proficiency levels or among female participants seems very critical in order to be able to generalize the findings. One can even run a comparison between female and male learners.

Second, a study can be conducted on the relationship between EFL learners' ADHD and their writing skill as writing – just like speaking – can also be broken down into the subparts of complexity, accuracy, and fluency.

Moreover, further research could be carried out to identify effective strategies to address the social and academic problems that these students have thus encouraging both teachers and parents to use these strategies toward the success of students with ADHD.

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Appendix I
CSI-4 for Teachers

آزمون ADHD اقتباس شده از پرسشنامه علائم مرضی کودکان (CSI-4)

«فرم ویژه معلمان»

شماره زبان آموزی		کلاس		جنس	سن	نام زبان آموز

دستورعمل: عبارات زیر را بخوانید و درجه تطبیق آنها را با رفتار این کودک در شش ماه گذشته در مدرسه با گذاشتن علامت ضربدر در یکی از چهار خانه جلوی عبارت مشخص کنید. هر سوال یا عبارت را طبق بهترین اطلاع خود جواب دهید.

بیشتر اوقات	اغلب	گاهی	هرگز	گروه: A (الف)
				۱- به جزئیات مطلب توجه نمی کند و یا بخاطر بی دقتی اشتباه می کند.
				۲- تمرکز و دقت روی تکالیف درسی یا فعالیتهای بازی برایش مشکل است.
				۳- وقتی با او حرف می زنید بنظر می رسد گوشش با شما نیست.
				۴- پیروی از دستور کار برایش مشکل است و کارها را ناتمام رها می کند.
				۵- سازمان دادن به کارهای درسی و فعالیتهای دیگر برایش مشکل است.
				۶- از انجام کارهائیکه مستلزم کوشش ذهنی زیادی باشد (مثلاً انجام تمرینهای کلاسی یا تکالیف درسی در خانه) خودداری می کند.
				۷- چیزهائی را که برای انجام کارهایش لازم دارد گم می کند.
				۸- رویدادهای دیگر به آسانی حواس و دقت او را بهم می زنند.
				۹- در کارهای روزمره خود فراموشکار است.
				۱۰- دستها و پاهایش را تکان می دهد یا روی صندلی جنب می خورد.
				۱۱- اگر ازش بخواهید مدتی روی صندلی به حالت نشسته بماند نمی تواند.
				۱۲- حتی وقتی از او خواسته شود این کارها را نکند، اینور و آنور می دود و از در و دیوار بالا می رود.
				۱۳- ساکت نشستن و بازی کردن برایش مشکل است.
				۱۴- دائم در حال حرکت است مثل اینکه موتوری در درونش قرار دارد و او را هل می دهد.
				۱۵- بیش از اندازه صحبت می کند.
				۱۶- وقتی از او سوالی می کنند پیش از آنکه همه سوال را بشنود جواب می دهد.
				۱۷- در فعالیتهای دسته جمعی نمیتواند منتظر نوبت خود بماند.
				۱۸- حرفهای دیگران را قطع می کند یا در وسط فعالیتهای بچه ها ناگهانی خود را داخل می کند.

Appendix II
CSI-4 for Parents

آزمون ADHD اقتباس شده از پرسشنامه علائم مرضی کودکان (CSI- 4)

«فرم ویژه والدین»

نام زبان آموز	سن	جنس	کلاس	شماره زبان آموزی

دستورعمل: عبارات زیر را بخوانید و درجه تطبیق آنها را با رفتار این کودک در شش ماه گذشته در خانه با گذاشتن علامت ضربدر در یکی از چهار خانه جلوی عبارت مشخص کنید. هر سوال یا عبارت را طبق بهترین اطلاع خود جواب دهید.

بیشتر اوقات	اغلب	گاهی	هرگز	گروه: A (الف)
				۱- به جزئیات مطلب توجه نمی کند و یا بخاطر بی دقتی اشتباه می کند.
				۲- تمرکز و دقت روی تکالیف درسی یا فعالیتهای بازی برایش مشکل است.
				۳- وقتی با او حرف می زنید بنظر می رسد گوشش با شما نیست.
				۴- پیروی از دستور کار برایش مشکل است و کارها را ناتمام رها می کند.
				۵- سازمان دادن به کارهای درسی و فعالیتهای دیگر برایش مشکل است.
				۶- از انجام کارهائیکه مستلزم کوشش ذهنی زیادی باشد (مثلاً انجام تمرینهای کلاسی یا تکالیف درسی در خانه) خودداری می کند.
				۷- چیزهائی را که برای انجام کارهایش لازم دارد گم می کند.
				۸- رویدادهای دیگر به آسانی حواس و دقت او را بهم می زنند.
				۹- در کارهای روزمره خود فراموشکار است.
				۱۰- دستها و پاهایش را تکان می دهد یا روی صندلی جنب می خورد.
				۱۱- اگر از او بخواهید مدتی روی صندلی به حالت نشسته بماند نمی تواند.
				۱۲- حتی وقتی از او خواسته شود این کارها را نکند، اینور و آنور می دود و از در و دیوار بالا می رود.
				۱۳- ساکت نشستن و بازی کردن برایش مشکل است.
				۱۴- دائم در حال حرکت است مثل اینکه موتوری در درونش قرار دارد و او را هل می دهد.
				۱۵- بیش از اندازه صحبت می کند.
				۱۶- وقتی از او سوالی می کنند پیش از آنکه همه سوال را بشنود جواب می دهد.
				۱۷- در فعالیتهای دسته جمعی نمیتواند منتظر نوبت خود بماند.
				۱۸- حرفهای دیگران را قطع می کند یا در وسط فعالیتهای بچه ها ناگهانی خود را داخل می کند.

Appendix III

KET Speaking Section

PAPER 3   Speaking (8–10 minutes)

The Speaking test lasts 8 to 10 minutes. You will take the test with another candidate. There are two examiners, but only one of them will talk to you. The examiner will ask you questions and ask you to talk to the other candidate.

Part 1 (5–6 minutes)
The examiner will ask you and your partner some questions. These questions will be about your daily life, past experience and future plans. For example, you may have to speak about your school, job, hobbies or home town.

Part 2 (3–4 minutes)
You and your partner will speak to each other. You will ask and answer questions. The examiner will give you a booklet with some information in it. The examiner will give your partner a booklet with some words in it. Your partner will use the words in the booklet to ask you questions about the information you have. Then you will change roles.

Speaking   PART 1

TIP

Practise talking about yourself and your likes and dislikes.

In the first part of the test the examiner will ask you questions about yourself.

Below are some examples of the kind of questions the examiner will ask you.

Read the questions and try to answer them.

Remember to say the answers; do not write them down – this is a speaking test.

1 What's your name?
2 How do you spell your surname (family name)?
3 Are you a student?
4 What do you do/study?
5 Do you like your job? Why (not)?
6 Where are you from?
7 How long have you lived here?
8 Tell me about your house or flat.
9 What music do you like?
10 Can you play the piano?
11 Tell me about your favourite CD.

Try to give more than a one-word answer.

Question 3 can be answered with just a 'yes' or 'no', and you can answer question 4 with just one word, e.g., 'What do you study?' – 'maths.'

Always try to say more than just one word. Put the word into a sentence.

For example:

Question	Answer
Are you a student?	Yes, I study at the city college.
What do you study?	I study maths. It's my favourite subject.

Speaking   PART 2

TIP

Look at your partner when you ask and answer questions.

In the second part of the test you talk to your partner, so remember to look at them when you are talking.

The examiner will first give you and your partner some information about a bird park. Look on pages 130 and 132 for the information (1A) and the prompt questions (1B) for the bird park.

The examiner will tell you what you have to do. Before you start, take a little time to read the information and prompt questions the examiner gives to you. When you have finished reading, you can look up at your partner and smile, to show that you are ready to start.

Look at the prompt questions 1B on page 132. Try asking five questions about the bird park. Remember to just say them, not write them down.

When you are sure you have five good questions, look at the information 1A on page 130 and try to find the answers to your questions.

If possible, practise this part of the test with another student.

There is a task (1C and 1D) about an elephant ride on pages 134 and 136. Use this for some practice.

When you ask and answer questions together, remember to look at your partner. Smile and be friendly.

Visual materials for Paper 3

1A

Lightwood Bird Park

Look at beautiful birds from Europe, Africa and Asia
Learn how birds fly
February to December
10 a.m. – 5 p.m.
£2 children
£4 adults
Call 859261

2B

Football lessons

- where?
- day?
- for adults?
- cost? £?
- time?

1B

Bird park

- what / see?
- open / February?
- what / learn?
- child's ticket?   £?
- phone number?

2A

FOOTBALL LESSONS

Tuesdays and Fridays
For players 12 – 16 years old
6 – 8 p.m.
£3 per lesson
Must wear football boots.
NORTH ROAD SPORTS CENTRE