

Advantages of Bilinguals over Monolinguals: Creativity among Bilingual Arabic—Hebrew Arab Students

Salim Abu Rabia, Yasmine Alattawna

Faculty of Education, University of Haifa, Haifa, Israel
Email: salimar@edu.haifa.ac.il

How to cite this paper: Rabia, S. A., & Alattawna, Y. (2022). Advantages of Bilinguals over Monolinguals: Creativity among Bilingual Arabic—Hebrew Arab Students. *Creative Education*, 13, 1643-1666.
<https://doi.org/10.4236/ce.2022.135104>

Received: April 23, 2022

Accepted: May 28, 2022

Published: May 31, 2022

Copyright © 2022 by author(s) and Scientific Research Publishing Inc.
This work is licensed under the Creative Commons Attribution International License (CC BY 4.0).

<http://creativecommons.org/licenses/by/4.0/>



Open Access

Abstract

The purpose of this study was to examine the relationship between bilingualism and creativity in elementary school students. The main research hypothesis is that bilingual students' learning ability reflects on creative ability in childhood. The student's creativity is measured relatively, so when talking about creative students, it is in comparison to monolingual students. The creativity measured in the study is creativity in verbal and visual learning tasks, so there are two forms of creativity in the research. The study focuses on bilingualism among Israeli Arab students because high rates of bilingualism characterize this sector of Israeli society compared to other Israeli students. The way to test research hypotheses is by using the TTCT test, which tests the students' creativity in several ways, including fluency, flexibility, originality, and speech development. In addition, we examined whether there is a relationship between school type and verbal plot construction, dialogue writing, descriptive ability, and vocabulary ability. The population of the study included a total of 58 children, aged eight years old, selected from two different schools in the southern district of Israel. Thirty students attend a monolingual school (51.7%), and 28 students attend a bilingual school (48.3%). Twenty-one of the students were boys (36.2%), and 37 were girls (63.8%). 50% of the students speak one language, and 50% speak 2 - 3 languages. Also, among 74.1% of students, the mother tongue is Arabic, 20.7% is Hebrew, and 5.1% is Arabic or Hebrew or Russian. The study procedure included children in both groups who did the reading comprehension tests in both languages. According to these tests, we classified the monolingual and bilingual children. The test included various types of questions to test their reading comprehension skills. The children then performed the creative tasks, both in the verbal and visual form of the TTCT tests of creative thinking, measured by the Gilford model. The results of the study show that there are statistically significant differences between bilingual

and monolingual students in creativity, in all areas, fluency, flexibility, originality, and speech development. In examining the differences between school types, a significant relationship has been found between the school type and the verbal plot building ability in the TTCT test. Still, no significant relationship was found between the school type and dialogue writing skills, descriptive ability, and vocabulary ability. The study concludes that there is a significant relationship between bilingualism and the level and type of students' creativity.

Keywords

Creativity, Bilingualism, Bilingual Schools, Monolingual Schools, Monolinguals vs. Bilinguals

1. Introduction

Many studies have investigated the effects of bilingualism on the human brain (Kharkhurin, 2010). The current study continues the effort to find the possible influence of bilingualism on an individual's creative potential. The study aims to investigate whether bilingual students show increased creativity in verbal and figural tasks when compared to monolingual students. We investigated both bilingual and monolingual students by presenting different research hypotheses, attitudes, and ideas, and hopefully, it will reveal the connection between bilingualism and creativity.

Language has been used historically in various educational settings to produce different linguistic outcomes, fostering monolingual, and/or bilingual speech communities (Garcia & Fishman, 1997; Guy & Hinskens, 2016). However, language learning has been shown to entail socio-cultural products beyond purely linguistic outcomes. Early childhood is considered one of the most important stages in a person's life. It is the stage that is marked by flexibility and willingness to learn and develop different skills and abilities. Also, it is a preparational phase, forming and building the foundations for future development. It is typical in this phase that a child tends to guess, explore, and experiment with his surroundings (Al-Kilabi & Tayeh, 2013).

The word bilingualism became more popular in the last few decades. The use of this word became necessary due to increased migrations, mixed marriages, early language acquisition, and socio-cultural factors (existence of dialects, etc.) (Al-Kilabi & Tayeh, 2013; Kokturk, Odacioglu, & Muge Uysal, 2016). If a person migrates to a new country, and doesn't learn the new languages properly, it becomes very difficult for him to be a complete member of that society. Scholars stopped considering bilinguals as an interesting aberration and took another perspective for it (Al-Kilabi & Tayeh, 2013).

Bilingual children can switch between two languages according to the situation, at which the child can use the vocabulary of each language when they need

it (Kharkhurin, 2010). While the research of creativity and bilingualism is far from being a straightforward and a simple matter, and attempts for measuring creativity have encountered criticism (Kharkhurin, 2010), previous research had shed some light on the individual's cognitive aspects, which can be related to this complex notion. One of these potential indicators for creativity among bilinguals, is the capacity of divergent thinking, as originally introduced by Guilford (1967) (Leung, Madduz, Galinsky, & Chiu, 2008; Gross, 2015).

2. Literature Review

2.1. What Is Bilingualism?

Psycholinguists distinguish between three main types of bilingualism in terms of the ways languages are encoded in mind (Kostandyan & Ledovaya, 2013):

- 1) Coordinate bilingualism: Bilinguals have separate, language-specific meanings associated with L1 and L2 (2 meaning systems, two linguistic systems).
- 2) Compound bilingualism: Bilinguals have one meaning system for L1 and L2 but two different means of expression (1 meaning system two linguistic systems).
- 3) Subordinate bilingualism: Bilinguals interpret the weaker language through the stronger language (1 meaning system two linguistic systems).

From the different definitions of bilingualism, the study will focus on the definition that has been made by the French Psycholinguist F. Grosjean (1982). He believes that bilingualism is the use of two (or more) languages in one's everyday life. The bilingual person uses two languages for different purposes, in different domains of life, with different people (Kostandyan & Ledovaya, 2013).

Multilingualism is acquired by multicultural experiences, meaning that it is a measure of the extent of immersion of different cultures, including cases such as family immigration to a different culture, speaking in different languages, and interacting with individuals from different cultures (Leung, Madduz, Galinsky, & Chiu, 2008; Butler, 2012; Kessler & Quinn, 1987; Gross, 2015).

The advantages of bilingualism have been reported across different domains, such as creativity (expressed in divergent thinking) (Bruck, Lambert, & Tucker, 1976; Kessler & Quinn, 1987; Ricciardelli, 1992; Simonton, 2008), problem-solving (Adesope, Lavin, Thompson, & Ungerleider, 2010; Bialystok, 1999; Kessler & Quinn, 1987), and perceptual disembodying (Duncan & De Avila, 1979). We find in literature found that the performance of balanced bilingual students, is better than that of their monolingual peers on tests, assessing general creativity and flexibility (Kessler & Quinn, 1987; Ricciardelli, 1992; Simonton, 2008), as well as on tasks assessing concept formation (Tucker, 1998; Antoniou, 2019).

Bialystok (2001, 2005, 2009) has pointed to the advantage among bilingual children in developing control over processes, and in processing complex stimuli, in tasks that require executive processing for conflict resolution, including switching and updating, even when no inhibition appears to be involved.

Bilingual children exhibit better performance and earlier success on executive function tasks. Furthermore, research has demonstrated that there is an earlier development of the executive function in bilingual children (as early as age 3). They were comparing this fact with monolingual children (ages four and five) (Bialystok, 1999; Diamond, Carlson, & Beck, 2005; Kloo & Perner, 2005; Zelazo, Frye, & Rapus, 1996).

Furthermore, additional studies support the evidence that the childhood period is critical for second language acquisition, based on the fact that children are biologically better prepared to learn a second language than adults (Marinova-Todd, Marshall, & Snow, 2000; Singleton, 2003). On the other hand, research has also shown that the native-like proficiency is attainable irrespective of age at which acquisition began (Birdsong, 1992; Bongaerts, Planken, & Schils, 1995; Antoniou, 2019).

However, some other studies have found a negative relation between the flexibility of thought and age (Macnamara, 1966; Strang et al., 2017), and others found no group differences between bilingual and monolingual participants (Rosenblum & Pinker, 1983; Adesope et al., 2010; Ricciardelli, 1992; Simonton, 2008). Although the flexibility of thought (or divergent thinking) has been discussed in relation to bilingualism (e.g., Bialystok, 2005; Peal & Lambert, 1962), almost nothing is known about the relationship between bilingualism and mathematical creativity. Bilingual children appear to be superior to their monolingual peers in their ability to focus attention and ignore misleading cues in mathematical problem solving (Bialystok, 2005).

2.2. What Is Creativity?

Galton (1869) who was the first to introduce creativity, however, this concept was mainly brought to attention by the efforts of Guilford (1950) and Torrance (1962) who are considered as the key figures that made creativity studies scientific (Kharkhurin, 2010; Cropley, 1967).

Many researchers have tried to provide a comprehensive definition of creativity, but this concept is very broad to be specifically defined. For instance, Smith (1998) refers to it as the capacity to generate ideas, possibilities, and alternatives. Sternberg and Lubart (1995) define creativity as the ability to produce work that is novel and adaptive with regards to tasks or situational limitations. The study defines creativity as an ability to produce work that satisfies the requirements of novelty, appropriateness, and usefulness (Martindale, 1989). According to Simonton (2008), he defines creativity to be a mental process involving the generation of new ideas or new connections between existing ideas or concepts (Simonton, 2008). Moreover, a common conception of creativity suggests that it is simply the act of making something new and different from what others are making (cf. "relative creativity", Leikin, 2009).

Interest in creativity as an area of educational research began in the second half of the 20th century. Since then, creativity research has had an impact on educational objectives, teaching strategies, and administrative practices (Tor-

rance, 1983).

Creativity has from the perspectives of behavioral psychology, social psychology, psychometrics, cognitive science, artificial intelligence, philosophy, history, economics, design research, and business management, among others (Saul & Leikin, 2010; Simonton, 2008). Research shows different patterns in the ways of expressing creativity across cultures (Niu & Sternberg, 2001; Simonton, 1997). Cultural factors, including educational experience, family expectations, and socio-cultural forces, may affect the development of creativity.

In the psychometric tradition, creative thinking associated often with divergent thinking (Guilford, 1967), which involves a broad search for information and the generation of numerous novel alternative answers to problems. Kharkhurin (2009) has performed a factor analysis on Guilford's four characteristics of divergent thinking (fluency, flexibility, elaboration, and originality) and found that they can group as two types of creative capacities.

2.3. Bilingualism and Creativity

In general, past research supports the hypothesis that there is a correlation between bilingualism and creativity (Adesope et al., 2010; Ricciardelli, 1992; Simonton, 2008; Van Dijk et al., 2018). For example, bilinguals scored higher than monolinguals in verbal originality and flexibility and figural originality and fluency (Simonton, 2008). Recently, however, Kharkhurin (2009) found a significant difference between nonverbal and verbal creativity in a bilingual context. Bilingualism has a positive effect on nonverbal creative behavior, but monolinguals are better than bilinguals in verbal creativity measures. These findings contradict the results of Cummings (2000) study, which claims that balanced bilinguals achieved higher scores on the fluency and flexibility scales of verbal divergence, and marginally higher scores on the originality scale, than matched none balanced bilinguals, have achieved (Leikin & Tovli, 2014).

Several researchers have engaged in seeking the relationship between creativity and bilingualism (Ghonsooly & Showqi, 2012). Ricciardelli (1992) conducted a meta-analysis of 24 studies that examined this relation. Despite some incongruities observed among them, the general inclination was toward the superiority of bilinguals to monolinguals in a performance that measures creativity (Leikin & Tovli, 2014).

Multicultural experiences may enhance creativity (Leung et al., 2008). Bilinguals can speak two languages that represent two different cultures (Bialystok, 2001). Thus, bilingualism may influence an individual's creativity regarding the cognitive benefits of speaking a second language or regarding the cultural dynamics, which bilinguals encounter in everyday life.

Simonton (2008) indicates a variety of important methodological and theoretical factors that should be taken into account, considering mutual relationships between bilingualism and creativity. On the one hand, there is no doubt that creativity is a complex cognitive phenomenon often correlating with IQ (creative and intelligence tests). On the other hand, bilingualism is also a com-

plex concept (Leikin, 2013).

Hommel, Colzato, Fischer, and Christoffels (2011) who have affirmed the positive impact of bilingualism on creativity, claim that it is the underlying processes and mechanisms of creativity that are influenced by bilingual practice, not the unitary concept per se.

As mentioned earlier, bilingualism has devoted a noticeable body of creativity research to itself. Many studies assert the causality of bilingualism towards creativity. Still, few studies have investigated the impact of learning a foreign language in a context where the interaction is limited to teacher-student, which is different from daily social interactions.

2.4. Bilingual Education in the Arab Sector

We must view Arabic education from a broader context of the Arab population (i.e., Minority) in Israel. The educational system in Israel is designed, directed, and financed by the Ministry of Education and Culture in Jerusalem.

The differences between the Jewish and Arabic school systems pervade all levels of the educational system in Israel. The Ministry of Education and Culture appoints administrators (such as superintendents, supervisors and principals), and there is a scarcity of Arabs in upper-level administrative positions.

Bilingual education is the use of two different languages in classroom instruction. Language plays a crucial role in social interaction and the transmission of cultural and social values. As a symbolic system, language not only constructs social identity but also may solidify or revitalize national/ethnic identities and loyalties (Fishman, 1989; Haarmann, 1986; Smith, 1998).

The study includes classes up to the third grade, and they are recognized as “state schools”, and are supported by the Israeli Ministry of Education. In these schools they teach three languages Arabic, Hebrew and English according to the regular curriculum of the state school system. The Arabic language is used as a language of instruction, the Hebrew and English languages are used as additive bilingual learning approach.

- Research question and hypotheses:

The present study aims to contribute to the research, which aims to find whether bilingual students show increased creativity in figural and verbal tasks when compared to monolingual students. In line with previous research, creativity links to divergent thinking, and a particular focus lies on figurative associations among the monolingual and bilingual speakers. Also, identifying the differences in the creative competencies among Arab students (monolingual and bilingual), in Israel. The data is collected from two elementary schools in southern Israel, the “Negev” region. One school is mainly monolingual (only Arabic), and the other is bilingual, which uses both the main languages Arabic and Hebrew.

Research question:

Do bilingual students show increased creativity in figural and verbal tasks

when compared to monolingual students?

Research hypothesis:

- 1) The bilingual group will obtain better scores from the monolingual group, in the TTCT-Figural test in Fluency.
- 2) The bilingual group will obtain better scores from the monolingual group, in the TTCT-Figural test in Flexibility.
- 3) The bilingual group will obtain better scores from the monolingual group, in the TTCT-Figural test in Originality.
- 4) The bilingual group will obtain better scores from the monolingual group, in the TTCT-Figural test in Elaboration.
- 5) There will be a relationship between the type of school and the Plot building.
- 6) There will be a relationship between the type of school and dialogue writing.
- 7) There will be a relationship between the type of school and descriptive style.
- 8) There will be a relationship between the type of school and vocabulary style.

3. Method

3.1. Participants

A total of 58 children (8 years old) were selected from two different schools from the southern region of Israel. Thirty students learn in a monolingual school (51.7%), and 28 students in a bilingual school (48.3%). Twenty-one of the students were boys (36.2%), and 37 were girls (63.8%) (see [Table 1](#), [Table 2](#)).

50% of students know one language, and 50% know 2 - 3 languages. Also, among 74.1% of the students, the mother tongue is Arabic, 20.7% is Hebrew, and 5.1% is Arabic or Hebrew, or Russian (see [Table 3](#)).

3.2. General Information about Both Schools

1) Arab-Bedouin Elementary School: This school includes pupils only from the Arab-Bedouin Sector, which their L1 is Arabic, and it is the dominant language at the school. Also, the teachers there are from the Arab Sector of Israel. This group is a monolingual children group that is attending only the Arabic language (L1) in their classroom. They are only learning and exposed to one language at their school.

2) Bilingual-Binational School: This school includes pupils from both the Arabic and Jewish Sectors, and their L1 is Hebrew and Arabic. The Hebrew and Arabic languages are both the dominant languages at school. Also, the teachers there are from both sectors as well. This school also is celebrating the holidays of both sectors and other cultural activities. This group is exposed to both languages equally, including lessons and activities at school. They are attending lessons using both languages: Arabic and Hebrew.

Table 1. The total of participants.

		Frequency	Percent	Valid Percent	Cumulative Percent
	Mono-lingual	30	51.7	51.7	51.7
Valid	Bi-lingual	28	48.3	48.3	100.0
	Total	58	100.0	100.0	

Table 2. The gender of participants.

	Type of gender	Frequency	Percent	Valid Percent	Cumulative Percent
	Male	21	36.2	36.2	36.2
Valid	Female	37	63.8	63.8	100.0
	Total	58	100.0	100.0	

Table 3. The total of languages.

	Type of language (L1)	Frequency	Percent	Valid Percent	Cumulative Percent
	Hebrew	12	20.7	20.7	20.7
	Arabic	43	74.1	74.1	94.8
Valid	Hebrew/Arabic	1	1.7	1.7	96.6
	Russian	2	3.4	3.4	100.0
	Total	58	100.0	100.0	

3.3. Materials

1) Bilingual background questionnaire: The researcher developed the Questionnaires. There will be some questions about the child's historical family, his/her spoken languages, socio-economic level, parents' education and position, and more other background information.

2) Language acquisition tests: They are built on reading comprehension tests in both languages Arabic and Hebrew. These tests aim to check the children's abilities at each language, both monolingual and bilingual. The questions will include W-H Questions, sentence completion, writing true or false, matching, and multiple-choice questions (Nboani, Khateeb, Dana, & Zadik, 2009).

3) Torrance Tests of Creative Thinking (TTCT): The TTCT was part of a long-term research program emphasizing classroom experiences that stimulate creativity (Swartz, 1988). Torrance's eponymous tests of creativity, but the assessment of creativity was not one of Torrance's goals. Torrance's main focus was on understanding and nurturing qualities that help people express their creativity. The tests are not designed to measure creativity simply, but instead to serve as a tool for its enhancement (Hébert, Cramond, Neumeister, Millar, & Silvian, 2002).

The figural test presents figurative stimuli and requires figurative answers, while the verbal test presents both figurative and verbal stimuli and requires verbal answers. Verbal creativity is appreciated by three factors: fluency, flexibility, and originality. In contrast, figural creativity is assessed based on five indicators:

fluency, originality, elaboration, the abstractness of titles, and resistance to premature closure (Nboani, Khateeb, Dana, & Zadik, 2009; Alattawna, 2015).

1) Task 1 (a Figural TTCT): It is formally titled “Thinking Creatively with Pictures”. It is appropriate at all levels, kindergarten through school. It uses three picture-based exercises to assess five mental characteristics: fluency, flexibility, originality, and elaboration (De Caroli & Sagone, 2009). For example, they are asking each student individually at both groups to take 3 - 5 minutes to use circles as a prompt (starting point) for drawing. They need to complete the circles with as many pictures as comes to their mind during a limited pace. (Torrance, 1972)

2) Task 2 (a verbal TTCT): This task is formally titled “Thinking Creatively with Words”. It is appropriate at all levels, kindergarten through school. It is scored by three measures: fluency, flexibility, and originality. For example, in this test, each student individually at both groups is given the title of a story. He is supposed to construct an original story based on the title 5 - 7 minutes as “Good Friends” (Kim, 2017).

3.4. Procedure

First, children in both groups did the reading comprehension tests in both languages. By these tests, I have categorized the monolingual children from bilingual children. The test included different kinds of questions to check their reading comprehension skills.

Secondly, the children did the creativity tasks, both the verbal and figural forms of the Torrance Tests of Creative Thinking, which were measured by the Guilford Model. Each test included a task in which subjects were required to give as many and as unconventional answers as possible in a time frame, which varies from 5 to 10 minutes. Psychologist J. P. Guilford (1967), devised four measures of a person’s divergent production. Each of the measures can be practiced and improved, and each focuses on creative output in the context of a prompt (any prompt) that asks for several responses. According to Johara (2016), here is an overview of the based characteristic measures:

Fluency: The number of responses.

Flexibility: The number of types of responses.

Originality: The unusualness of the responses.

Elaboration: The detail of the responses.

4. Results

4.1. Bilingual Background Measure

Tables 1-3 present the children’s bilingual background data. A series of one-way statistical analyses were conducted to evaluate the differences between the groups on the bilingual background questionnaire. The two groups did not differ significantly in gender, age, and their economic situation of having some technological devices like computers or tablets. There were significant differences, however, between the two groups in terms of the number of languages they speak, the

number of their siblings, and programs of different spoken languages that they watch on TV.

Moreover, when the two groups did the language tests and filled in a questionnaire, each group preferred to do it in their language. The monolingual group did not succeed in doing the Hebrew language test; however, the bilingual group mostly did both versions.

4.2. Experimental Measure

1) The task of TTCT-Figural:

After doing a normality test for all variables at this task, both tests and histograms showed that the variables do not distribute normally. Therefore, a non-parametric test should be used, such as Mann-Whitney parametric test for the TTCT-Figural task. Also, we used the Chi-Square test for the TTCT-Verbal task since these are categorical variables.

The results of the TTCT-Figural are shown in **Table 4**, which shows that the bilingual group obtained better scores for all criteria. The average rating and the statistically significant differences in the overall Figural creativity result support the study's predictions.

The findings in **Table 6** show that there are statistically significant differences in all of the indices, as well as in the total, among students who study in a bilingual school compared with students attending a bilingual school.

Based on statistical findings in **Table 5** & **Table 6** that are summarized in **Figure 1** shows the advantage of bilingual over monolingual students.

2) Task of TTCT-Verbal

Examining the relationship between the type of school and indices—plot building, dialogue writing, descriptive style, and vocabulary style. It is measured by Crosstab and Chi-Square Tests.

According to the findings of the statistical tests for TTCT verbal, **Tables 7-10** have shown that only in plot building there is a connection between the writing of the plot and the type of school, in the single-language school, 53.3% of the students have none, 13.3% some, and 33.3% all, whereas in the bilingual school 21.4% none, 42.9% some, and 35.7% all. These results show that there are no significant differences at all writing styles, except plot building style, between the two groups as it has predicted.

Table 4. Descriptive statistics of means and standard deviations between groups 1 & 2.

	Mean Mono*	Std. Deviation Mono*	Mean Bi**	Std. Deviation Bi**
Fluency	4.87	1.889	5.89	0.315
Flexibility	2.50	1.225	4.71	1.560
Originality	0.10	0.305	4.57	0.920
Elaboration	1.23	1.194	4.75	0.887
TOTAL	8.70	3.659	19.93	2.463

* Mono-lingual. ** Bi-lingual.

Table 5. Findings of the Mann-Whitney Test.

	Ranks			
	Type of school	N	Mean Rank	Sum of Ranks
Fluency (amount of pictures completion—6 circles)	Mono*	30	25.88	776.50
	Bi**	28	33.38	934.50
	Total	58		
Flexibility (amount of different types)	Mono*	30	19.15	574.50
	Bi**	28	40.59	1136.50
	Total	58		
Originality (unusualness of pictures)	Mono*	30	15.50	465.00
	Bi**	28	44.50	1246.00
	Total	58		
Elaboration (detailed of pictures)	Mono*	30	15.82	474.50
	Bi**	28	44.16	1236.50
	Total	58		
TOTAL	Mono*	30	15.50	465.00
	Bi**	28	44.50	1246.00
	Total	58		

* Mono-lingual. ** Bi-lingual.

Table 6. Findings of statistically significant.

	Test Statistics				
	Fluency	Flexibility	Originality	Elaboration	TOTAL
Mann-Whitney U	311.500	109.500	0.000	9.500	0.000
Wilcoxon W	776.500	574.500	465.000	474.500	465.000
Z	-2.314	-4.906	-6.939	-6.478	-6.550
Asymp. Sig. (2-tailed)	0.021	0.000	0.000	0.000	0.000

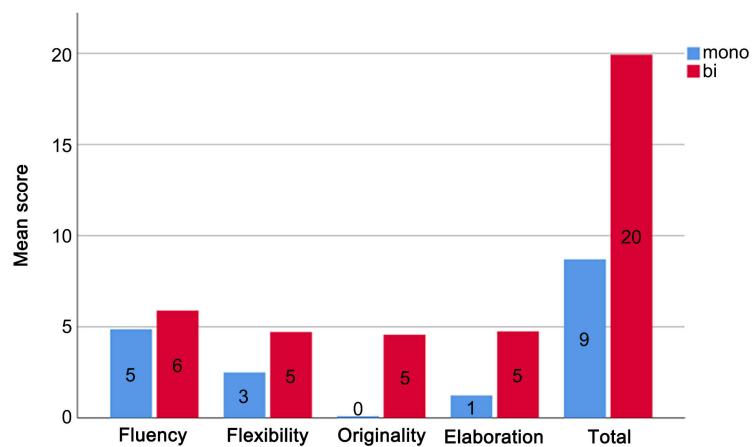
**Figure 1.** Average figural creativity scores of groups 1 and 2.

Table 7. The findings of plot building by crosstab and Chi-Square Tests:

				Crosstab		Total
				Type of school		
			Mono	Bi		
Plot building	2	Count	10	10	20	
		% within bi_mono	33.3%	35.7%	34.5%	
	0	Count	16	6	22	
		% within bi_mono	53.3%	21.4%	37.9%	
	1	Count	4	12	16	
		% within bi_mono	13.3%	42.9%	27.6%	
Total	Count	30	28	58		
	% within bi_mono	100.0%	100.0%	100.0%		

* Mono-lingual. ** Bi-lingual.

Chi-Square Tests			
	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	8.487 ^a	2	0.014
Likelihood Ratio	8.834	2	0.012
N of Valid Cases	58		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.72.

Table 8. The findings of dialogue writing by Crosstab and Chi-Square Tests:

				Crosstab		Total
				Type of school		
			Monolingual	Bilingual		
Dialogue writing	0	Count	28	25	53	
		% within bi_mono	93.3%	89.3%	91.4%	
	1	Count	2	3	5	
		% within bi_mono	6.7%	10.7%	8.6%	
	Total	Count	30	28	58	
		% within bi_mono	100.0%	100.0%	100.0%	

* Mono-lingual. ** Bi-lingual.

Chi-Square Tests					
	Value	Df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	0.301 ^a	1	0.583		
Continuity Correction ^b	0.007	1	0.936		
Likelihood Ratio	0.302	1	0.582		
Fisher's Exact Test				0.665	0.467
N of Valid Cases	58				

a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is 2.41.

b. Computed only for a 2 × 2 table.

Table 9. The Findings of the descriptive style by Crosstab and Chi-Square Tests:

		Crosstab			Total
		Type of school			
		Monolingual	Bilingual		
Descriptive style	2	Count	4	6	10
		% within bi_mono	13.3%	21.4%	17.2%
	0	Count	4	6	10
		% within bi_mono	13.3%	21.4%	17.2%
	1	Count	22	16	38
		% within bi_mono	73.3%	57.1%	65.5%
Total	Count	30	28	58	
	% within bi_mono	100.0%	100.0%	100.0%	

* Mono-lingual. ** Bi-lingual.

Chi-Square Tests			
	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1.680 ^a	2	0.432
Likelihood Ratio	1.688	2	0.430
N of Valid Cases	58		

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is 4.83.

Table 10. The findings of vocabulary style by Crosstab and Chi-Square Tests:

		Crosstab			Total
		Type of school			
		Monolingual	Bilingual		
Vocabulary style	2	Count	6	5	11
		% within bi_mono	20.0%	17.9%	19.0%
	0	Count	4	5	9
		% within bi_mono	13.3%	17.9%	15.5%
	1	Count	20	18	38
		% within bi_mono	66.7%	64.3%	65.5%
Total	Count	30	28	58	
	% within bi_mono	100.0%	100.0%	100.0%	

* Mono-lingual. ** Bi-lingual.

Chi-Square Tests			
	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	0.239 ^a	2	0.888
Likelihood Ratio	0.239	2	0.887
N of Valid Cases	58		

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is 4.34.

5. Discussion

The purpose of this study was to examine the relationship between bilingualism and creativity among students. The main results of the study show that there are statistically significant differences between bilingual and monolingual students in terms of creativity, which has been examined in the areas of Fluency, Flexibility, Originality, and Elaboration by the TTCT-Figural test. Also, when considering the relationship between the type of school and indices, the study has found a significant correlation between the kind of school and the Plot building task in the TTCT-Verbal test. Still, there was not a meaningful relationship between the type of school to the functions of dialogue writing, descriptive style, and vocabulary style.

The first hypothesis of the study was that the bilingual group of students would obtain a better score from the monolingual group, in the TTCT-Figural test in Fluency. The results of the study show that there is a significant difference between the two groups. One possible explanation for this finding is that bilingual students do have more fluent speech than monolingual students, due to their frequent use of both languages. This finding is consistent with past research, which shows that bilingual students have an increased ability to speak fluently (Al-Kilabi & Tayeh, 2013).

The second hypothesis of the study was that the bilingual group of students would obtain a better score from the monolingual group, in the TTCT-Figural test in Flexibility. The results of the study show that there is a significant difference between the two groups. An explanation for this finding is that bilingual students do have more Flexibility than monolingual students, due to their more extensive vocabulary, which includes two languages. This finding is also consolidated by the fact that past studies also indicate that monolingual students have more flexibility in their speech due to their bilingualism (Al-Kilabi & Tayeh, 2013) although there are also studies that did not find a relation between bilingualism and flexibility (Macnamara, 1966; Adesope et al., 2010).

The third hypothesis of the study was that the bilingual group of students would obtain a better score from the monolingual group, in the TTCT-Figural test in Originality. The results of the study show that there is a significant difference between the two groups. A possible explanation for this finding is that bilingual students do have an advantage in originality when using language, due to their ability to mix both languages in their minds and create a new understanding of their surroundings. When compared to past studies, this finding is consistent with prior research showing that bilingual students have an increased ability for Originality (Kharkhurin, 2009).

The fourth hypothesis of the study was that the bilingual group of students would obtain a better score from the monolingual group, in the TTCT-Figural test in Elaboration. The results of the study show that there is a significant difference between the two groups. A possible explanation for this finding is that bilingual students do have better wording than the monolingual group of stu-

dents since the use of two languages demands increased processing of information compared to a monolingual student. When compared to past studies, this finding is consistent with previous research that shows a connection between bilingualism and Elaboration (Kharkhurin, 2009; De Caroli & Sagone, 2009).

The fifth hypothesis of the study was that there is a relationship between the type of school and plot building. The results of the study show that there is a significant relationship between these variables. A possible explanation for this finding is that bilingual students have an increased ability to build plots because they have a wide perspective, which they have from using both languages, which represent two different cultures. When compared to past studies, this finding is consistent with recent research that shows a connection between bilingualism and Plot building (Simonton, 2008).

The sixth hypothesis of the study was that there is a relationship between the type of school and dialogue writing. Study's results show that there is not a significant relationship between these variables. A possible explanation for this finding is that dialogue writing is an easy task that does not require unique creativity, like the creativity that bilingual students have. Thus there is no significant relationship between the two variables. When compared to past studies, this finding is inconsistent with past research that shows a connection between bilingualism and dialogue writing (Kharkhurin, 2009).

The seventh hypothesis of the study was that there is a relationship between the type of school and descriptive style. The results of the study show that there is not a significant relationship between these variables. A possible explanation for this finding is that the descriptive form of the student depends more on individual characteristics of the individual student. Thus we have failed to see a deep connection between these variables. When compared to past studies, this finding is inconsistent with prior research that shows a relationship between bilingualism and descriptive style (Kharkhurin, 2009).

The eighth hypothesis of the study was that there is a relationship between the type of school and vocabulary style. This study's results show that there is not a significant relationship between these variables. A possible explanation for this finding is that the vocabulary style depends on several different factors of the student, like personal preferences or past experiences. Thus these factors can cancel or distort the effect of bilingualism. When compared to recent studies, this finding is inconsistent with past research that shows a connection between bilingualism and vocabulary style (Leung, Madduz, Galinsky, & Chiu, 2008).

A possible limitation of this study is that the research was conducted only in two schools, and the sample size is relatively small, so the results of the study may not adequately reflect the general population of bilingual students in Israel. Therefore, To obtain more accurate results, we need a more extensive and more diverse sample. Another possible limitation is that the student's creativity can be influenced by other factors that can bias the results, such as the student's attitude and personal life experience, which can change his or her creativity.

Therefore, if we summarize the research's conclusions, we conclude that there is a significant relationship between bilingualism and the level and type of student creativity. The bilingual students obtained better scores compared to the monolingual group, in the TTCT-Figural test, for all criteria, Fluency, Flexibility, Originality, Elaboration. There is a relationship between the type of school and Plot building in the TTCT-Verbal test, as for the rest of the criteria, dialogue writing, descriptive style, vocabulary style, we found no significant relationship.

Suggested research following this study, is a research that will examine the relationship between macro factors that influence the student, such as the school climate, socioeconomic background and social environment, and bilingualism. Such a study aims to understand if bilingualism is accompanied by background factors that can also affect a student's creativity.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

- Adesope, O., Lavin, T., Thompson, T., & Ungerleider, C. (2010). A Systematic Review and Meta-Analysis of the Cognitive Correlates of Bilingualism. *Review of Educational Research, 80*, 207-245. <https://doi.org/10.3102/0034654310368803>
- Alatawna, A. (2015). *New Hope*. Hammad abo Kosh.
- Al-Kilabi, A., & Tayeh, T. (2013). The Effect of Role-Playing on Developing Creative Thinking among Children Aged 4-5 Years. *Journal of Physical Education Science, 7*, 2-25.
- Antoniou, M. (2019). The Advantages of Bilingualism Debate. *Annual Review of Linguistics, 5*, 1-21. <https://doi.org/10.1146/annurev-linguistics-011718-011820>
- Bialystok, E. (1999). Cognitive Complexity and Attentional Control in the Bilingual Mind. *Child Development, 70*, 636-644. <https://doi.org/10.1111/1467-8624.00046>
- Bialystok, E. (2001). *Bilingualism in Development: Language, Literacy, and Cognition*. Cambridge University Press. <https://doi.org/10.1017/CBO9780511605963>
- Bialystok, E. (2005). Effect of Bilingualism and Computer Video Game Experience on the Simon Task. *Canadian Journal of Experimental Psychology, 60*, 68-79. <https://doi.org/10.1037/cjep2006008>
- Bialystok, E. (2009). Cognitive Control and Lexical Access in Younger and Older Bilinguals. *The Journal of Experimental Psychology: Learning, Memory, and Cognition, 34*, 859-873. <https://doi.org/10.1037/0278-7393.34.4.859>
- Birdsong, D. (1992). Ultimate Attainment in Second Language Acquisition. *Language, 68*, 706-755. <https://doi.org/10.1353/lan.1992.0035>
- Bongaerts, T., Planken, B., & Schils, E. (1995). Can Do Late Starters Attain a Native Accent in a Foreign Language? A Test of the Critical Period Hypothesis. In D. Singleton, & Z. Lengyel (Eds.), *The Age Factor in Second Language Acquisition* (pp. 30-50). Multilingual Matters Limited.
- Bruck, M., Lambert, W. E., & Tucker, G. R. (1976). Alternative Forms of Immersion for Second Language Teaching. *Working Papers on Bilingualism, 10*, 22-73.

- <https://doi.org/10.1080/08881685.1976.10668304>
- Butler, Y. (2012). Bilingualism/Multilingualism and Second-Language Acquisition. In *The Handbook of Bilingualism and Multilingualism: Second Edition* (pp. 109-136). Wiley-Blackwell. <https://doi.org/10.1002/9781118332382.ch5>
- Cropley, A. J. (1967). *Creativity*. Longmans, Green.
- Cummings, J. L. (2000). Bilingualism and Dementia. *Journal of Neuropsychiatry & Clinical Neuroscience*, 11, 411-412. <https://doi.org/10.1176/jnp.11.3.411>
- De Caroli, M., & Sagone, E. (2009). Creative Thinking and Big Five Factors of Personality Measured in Italian School Children. *Psychological Reports*, 105, 791-803. <https://doi.org/10.2466/PRO.105.3.791-803>
- Diamond, A., Carlson, S. M., & Beck, D. M. (2005). Preschool Children's Performance in Task Switching on the Dimensional Change Card Sort Task: Separating the Dimensions Aids the Ability to Switch. *Developmental Neuropsychology*, 28, 689-729. https://doi.org/10.1207/s15326942dn2802_7
- Duncan, S. E., & De Avila, E. A. (1979). Bilingualism and Cognition: Some Recent Findings. *Journal of the National Association for Bilingual Education*, 4, 15-50. <https://doi.org/10.1080/08855072.1979.10668370>
- Fishman, J. A. (1989). *Language and Ethnicity in Minority Sociolinguistic Perspective*. Multilingual Matters.
- Galton, F. (1869). *Hereditary Genius*. Macmillan Publishers.
- Garcia, O., & Fishman, J. (1997). *The Multilingual Apple. Languages in New York City*. Mouton de Gruyter.
- Ghonsooly, B., & Showqi, S. (2012). The Effects of Foreign Language Learning on Creativity. *English Language Teaching*, 5, 161. <https://doi.org/10.5539/elt.v5n4p161>
- Grosjean, F. (1982). *Life with Two Languages: An Introduction to Bilingualism*. Harvard University Press.
- Gross, M. (2015). Voluntary Language Switching in English-Spanish Bilingual Children. *Journal of Cognitive Psychology*, 27, 999-1013. <https://doi.org/10.1080/20445911.2015.1074242>
- Guilford, J. P. (1950). Creativity. *American Psychologist*, 5, 444-454. <https://doi.org/10.1037/h0063487>
- Guilford, J. P. (1967). Creativity: Yesterday, Today and Tomorrow. *The Journal of Creative Behavior*, 1, 3-14. <https://doi.org/10.1002/j.2162-6057.1967.tb00002.x>
- Guy, G., & Hinskens, F. (2016). Linguistic Coherence: Systems, Repertoires, and Speech Communities. *Lingua*, 172-173, 1-9. <https://doi.org/10.1016/j.lingua.2016.01.001>
- Haarmann, H. (1986). *Language in Ethnicity: A View of Basic Ecological Relations*. Mouton de Gruyter. <https://doi.org/10.1515/9783110862805>
- Hébert, T. P., Cramond, B., Millar, G., & Silvian, A. F. (2002). *E. Paul Torrance: His Life, Accomplishments, and Legacy (RM02152)*. University of Connecticut, The National Research Center on the Gifted and Talented.
- Hommel, B., Colzato, L. S., Fischer, R., & Christoffels, I. (2011). Bilingualism and Creativity: Benefits in Convergent Thinking Come with Losses in Divergent Thinking. *Frontiers in Psychology*, 2, Article No. 273. <https://doi.org/10.3389/fpsyg.2011.00273>
- Johara, F. (2016). The Impact of Bilingualism on the Creative Capabilities of Kindergarten Children in Riyadh, Saudi Arabia. *International Education Studies*, 9, 263-294. <https://doi.org/10.5539/ies.v9n10p263>
- Kessler, C., & Quinn, M. E. (1987). Language Minority Children's Linguistics and Cogni-


























- tive Creativity. *Journal of Multilingual and Multicultural Development*, 8, 173-186.
<https://doi.org/10.1080/01434632.1987.9994284>
- Kharkhurin, A. V. (2009). The Role of Bilingualism in Creative Performance on Divergent Thinking and Invented Alien Creatures' Tests. *The Journal of Creative Behavior*, 43, 59-71. <https://doi.org/10.1002/j.2162-6057.2009.tb01306.x>
- Kharkhurin, A. V. (2010). Sociocultural Differences in the Relationship between Bilingualism and Creative Potential. *Journal of Cross-Cultural Psychology*, 41, 776-783.
<https://doi.org/10.1177/00220221110361777>
- Kim, K. (2017). The Torrance Tests of Creative Thinking—Figural or Verbal: Which One Should We Use? Creativity. *Theories Research Application*, 4, 302-321.
<https://doi.org/10.1515/ctra-2017-0015>
- Kloo, D., & Perner, J. (2005). Disentangling Dimensions in the Dimensional Change Card Sorting Task. *Developmental Science*, 8, 44-56.
<https://doi.org/10.1111/j.1467-7687.2005.00392.x>
- Kokturk, Ş., Odacıoğlu, M., & Müge Uysal, N. (2016). Bilingualism and Bilingual Education, Bilingualism, and Translational Action. *International Journal of Linguistics*, 8, 72-110. <https://doi.org/10.5296/ijl.v8i3.9601>
- Kostandyan, M. E., & Ledovaya, Y. A. (2013). How the Age of Language Acquisition Relates to Creativity? *Procedia—Social and Behavioral Sciences*, 86, 140-145.
<https://doi.org/10.1016/j.sbspro.2013.08.539>
- Leikin, M. (2013). The Effect of Bilingualism on Creativity: Developmental and Educational Perspectives. *International Journal of Bilingualism*, 17, 431-447.
<https://doi.org/10.1177/1367006912438300>
- Leikin, M., & Tovli, E. (2014). Bilingualism and Creativity in Early Childhood. *Creativity Research Journal*, 26, 411-417. <https://doi.org/10.1080/10400419.2014.961779>
- Leikin, R. (2009). Exploring Mathematical Creativity Using Multiple Solution Tasks. In R. Leikin, A. Berman, & B. Koichu (Eds.), *Creativity in Mathematics and the Education of Gifted Students* (pp. 129-145). Sense Publisher.
https://doi.org/10.1163/9789087909352_010
- Leung, A. K., Maddux, W. W., Galinsky, A. D., & Chiu, C. (2008). Multicultural Experience Enhances Creativity: The When and How. *The American Psychologist*, 63, 169-181.
<https://doi.org/10.1037/0003-066X.63.3.169>
- Lubart, T. I. (1995). *Defying the Crowd: Cultivating Creativity in a Culture of Conformity*. Free Press.
- MacNamara, J. (1966). *Bilingualism and Primary Education*. Edinburgh University Press.
- Marinova-Todd, S., Marshall, B., & Snow, C. (2000). Three Misconceptions about Age and L2 Learning. *TESOL Quarterly*, 34, 9-34. <https://doi.org/10.2307/3588095>
- Martindale, C. (1989). *Personality, Situation, and Creativity*. Plenum.
https://doi.org/10.1007/978-1-4757-5356-1_13
- Nboani, N., Khateeb, N., Dana, Y., & Zadik, R. (2009). *Mifgash Hadash, Kita G. al Nahda, Nazareth*.
- Niu, W., & Sternberg, R. (2001). Cultural Influences on Artistic Creativity and Its Evaluation. *International Journal of Psychology*, 36, 10-60.
<https://doi.org/10.1080/00207590143000036>
- Peal, E., & Lambert, W. E. (1962). The Relation of Bilingualism to Intelligence. *Psychological Monographs: General and Applied*, 76, 546-580.
<https://doi.org/10.1080/00207590143000036>

- Ricciardelli, L. A. (1992). Creativity and Bilingualism. *The Journal of Creative Behavior*, 26, 242-254. <https://doi.org/10.1002/j.2162-6057.1992.tb01183.x>
- Rosenblum, T., & Pinker, S. A. (1983). Word Magic Revisited: Monolingual and Bilingual Children's Understanding of the Word-Object Relationship. *Child Development*, 54, 773-780. <https://doi.org/10.2307/1130064>
- Saul, M., & Leikin, R. (2010). Intercultural Aspects of Creativity: Challenges and Barriers. *Mediterranean Journal for Research in Mathematics Education*, 9, 1-9.
- Simonton, D. (2008). Scientific Talent, Training, and Performance: Intellect, Personality, and Genetic Endowment. *Review of General Psychology*, 12, 28-46. <https://doi.org/10.1037/1089-2680.12.1.28>
- Simonton, D. K. (1997). Creativity. In J. E. Birren (Ed.), *Encyclopedia of Gerontology* (pp. 341-351). Academic Press.
- Singleton, G. (2003). Impacts of Rodents on Rice Production in Asia. IRRI Discussion Paper Series No. 45, 30 pp, Los Baños, Philippines. *IRRI Discussion Paper Series*, 45, 30-60.
- Smith, G. (1998). Idea-Generation Technique: A Formulary of Active Ingredients. *Journal of Creative Behavior*, 32, 107-133. <https://doi.org/10.1002/j.2162-6057.1998.tb00810.x>
- Strang, J., Anthony, L., Yerys, B., Hardy, K., Wallace, G., Kenworthy, L. et al. (2017). The Flexibility Scale: Development and Preliminary Validation of a Cognitive Flexibility Measure in Children with Autism Spectrum Disorders. *Journal of Autism and Developmental Disorders*, 47, 2502-2518. <https://doi.org/10.1007/s10803-017-3152-y>
- Swartz, J. D. (1988). Torrance Tests of Creative Thinking. In D. J. Keyser, & R. C. Sweetland (Eds.). *Test Critique* (Vol. 7. pp. 619-622). Kansas, MO: Test Corporation of America.
- Torrance, E. P. (1962). *Guiding Creative Talent*. Prentice-Hall, Inc. <https://doi.org/10.1037/13134-000>
- Torrance, E. P. (1972). Predictive Validity of the Torrance Tests of Creative Thinking. *Journal of Creative Behavior*, 6, 236-252. <https://doi.org/10.1002/j.2162-6057.1972.tb00936.x>
- Torrance, J. (1983). Towards a General Model of Quick Clay Development. *Sedimentology*, 30, 547-555. <https://doi.org/10.1111/j.1365-3091.1983.tb00692.x>
- Tucker, G. R. (1998). A Global Perspective on Multilingualism and Multilingual Education. In J. Cenoz, & F. Genesee (Eds.), *Beyond Bilingualism: Multilingualism and Multilingual Education* (pp. 3-15). Multilingual Matters.
- Van Dijk, M., Kroesbergen, E., Blom, E., & Leseman, P. (2018). Bilingualism and Creativity: Towards a Situated Cognition Approach. *The Journal of Creative Behavior*, 53, 178-188. <https://doi.org/10.1002/jocb.238>
- Zelazo, P. D., Frye, D., & Rapus, T. (1996). An Age-Related Dissociation between Knowing Rules and Using Them. *Cognitive Development*, 11, 37-63. [https://doi.org/10.1016/S0885-2014\(96\)90027-1](https://doi.org/10.1016/S0885-2014(96)90027-1)

Appendices

Task 1 (a Figural TTCT)—a descriptive example

Use the circles as a prompt for drawing. Draw for two minutes.

Anna					
	face	face	face	face	face
Benji					
	face	wheel	ball		
Carol					
	wheel	wheel	ball		
Darlene					
	bomb	balloon			
Eric					
	face	face	face		

Scoring table of a figural task for each group:

Student's number	Fluency (amount of pictures completion)	Flexibility (amount of different types)	Originality (unusualness of pictures)	Elaboration (detailed of pictures)	Total
1					
2					
3					
4					
5					

Task 2 (a verbal TTCT)—a descriptive example

Write a story from your own based on the following title “Good Friends” (5 - 7 minutes).

Good Friends

Scoring table of Verbal task for each student in each group:

Language's Area	Fluency	Flexibility	Originality	Total
Plot building				
Dialogue writing				
Descriptive style				
Vocabulary style				
				Final score

1) Language test in Hebrew.

קרא את הקטע**הנמלה**

דנה ראתה נמלה.
הנמלה הייתה קטנה.
הנמלה הלכה לאט.
קראה דנה לנמלה
אכל הנמלה לא ענתה.
הנמלה הלכה.

כתוב נכון/ לא נכון

- א. _____ דנה ראתה ארנב
ב. _____ הנמלה הייתה קטנה
ג. _____ הנמלה הלכה מהר
ד. _____ הנמלה לא ענתה לדנה

ענה על השאלות הבאות

- 1) מה ראתה דנה ?

2) האם הנמלה הייתה קטנה ?

3) מי קראה לנמלה ?

4) האם הנמלה ענתה לדנה ?

5) מה עשתה הנמלה בסוף ?

השלם את החסר - העזר במחסן מילים:

דנה ראתה _____
הנמלה הייתה _____
הנמלה _____ לאט.
קראה _____ לנמלה
אכל הנמלה לא _____
הנמלה הלכה _____

קטנה / נמלה / הלכה / ענתה / דנה

2) Language test in Arabic.



﴿إفْرَأِ النَّصَّ التَّالِيَّ بِتَمَعْنٍ ثُمَّ أَجِبْ عَنِ الْأَسْئَلَةِ الَّتِي تَلِيهِ:

الْغُرَابُ الذَّكِيُّ

عَطِشَ غُرَابٌ فَأَخَذَ يَبْحَثُ عَنْ مَاءٍ لِيَشْرَبَ. وَجَدَ حَجْرَةً فِي
فَعْرِهَا قَلِيلٌ مِنَ الْمَاءِ، لَكِنَّهُ لَمْ يَسْتَطِعِ الْوُصُولَ إِلَيْهِ. فَكَّرَ فِي حِيلَةٍ
يَرْفَعُ بِهَا الْمَاءَ، فَمَاذَا فَعَلَ؟ اَلتَّقَطَ عَنِ الْأَرْضِ حَجْرًا صَغِيرًا بِمِثْقَالِهِ
وَرَمَاهُ فِي الْحَجْرَةِ، فَارْتَفَعَ الْمَاءُ قَلِيلًا. اسْتَمَرَ الْغُرَابُ يُنْقَلُ الْحِجَارَةَ
وَيَرْمِيهَا فِي حَوْفِ الْحَجْرَةِ، وَالْمَاءُ يَرْتَفِعُ فِيهَا قَلِيلًا قَلِيلًا، حَتَّى بَلَغَ
الْارْتِفَاعَ الْمَطْلُوبَ.

أَدْخَلَ الْغُرَابُ رَأْسَهُ فِي الْحَجْرَةِ وَشَرِبَ حَتَّى رَوِيَ.



الْبَعْدُ الْأَوَّلُ: فَهْمُ الْمَعْنَى الصَّرِيحِ / الْخُصُولُ عَلَى مَعْلُومَاتٍ

س١) لماذا بَحَثَ الْغُرَابُ عَنْ مَاءٍ؟ _____ (٤ درجات)

س٢) ماذا وَجَدَ الْغُرَابُ؟ _____ (٤ درجات)

س٣) رَتَّبِ الْأَحْدَاثَ التَّالِيَةَ حَسَبَ وُجُودِهَا فِي النَّصِّ! (٤ درجات)



أَدْخَلَ الْغُرَابُ رَأْسَهُ فِي الْحَجْرَةِ وَشَرِبَ حَتَّى رَوِيَ.

تَنَاوَلَ الْغُرَابُ حِجَارَةً وَأَخَذَ يَرْمِيهَا فِي الْحَجْرَةِ.

عَطِشَ غُرَابٌ فَبَحَثَ عَنْ مَاءٍ لِيَشْرَبَ.

ارْتَفَعَ الْمَاءُ فِي الْحَجْرَةِ حَتَّى وَصَلَ الْارْتِفَاعَ الْمَطْلُوبَ.

الْبَعْدُ الثَّانِي: فَهْمُ الْمَعْنَى الْخَفِيِّ / اسْتِثْنَاءٌ

س٤) صِلْ غَطًّا بَيْنَ جُمْلَةِ السَّبَبِ وَجُمْلَةِ النَّاتِجَةِ! (٣ درجات)

السَّبَبُ

شَرِبَ الْغُرَابُ وَرَوِيَ

أَخَذَ يَبْحَثُ عَنْ مَاءٍ لِيَشْرَبَ

أَخَذَ يَرْمِي الْحِجَارَةَ فِي الْحَجْرَةِ

عَطِشَ غُرَابٌ

ارْتَفَعَ الْمَاءُ فِي الْحَجْرَةِ

لَمْ يَسْتَطِعِ الْغُرَابُ أَنْ يَصِلَ إِلَى الْمَاءِ

س٥) العبارة: "فَكَّرَ فِي حِيلَةٍ يَرْفَعُ بِهَا الْمَاءَ"، تَدُلُّ عَلَى: (٤ درجات)

عِبَاءِ الْغُرَابِ. ذِكَاةِ الْغُرَابِ. حِجَمِ الْغُرَابِ. جَمَالِ الْغُرَابِ

(٤ درجات)

س٦) العبارة: "حتى بلغ الارتفاع المطلوب"، تعني:


 حتى وصل الارتفاع الذي يريدُه الغرابُ.

 حتى وصل إلى أعلى الحرة.

 حتى وصل إلى وسط الحرة.

 حتى وصل إلى أسفل الحرة.

(٤ درجات)

س٧) كلمة "قعرها" تعني:

 خلفها

 سطحها

 قاعها

 جانبها

(٤ درجات)

س٨) مرادف كلمة "التقط" هو:

 رمى

 تناول

 أبعَد

 أخرج

(٣ درجات)

س٩) استخرج جملة من النص تدل على ذكاء الغراب!

البعد الثالث: تفسير، دمج وتطبيق أفكار ومعلومات

(٤ درجات)

س١٠) أسلوب النص هو:

 حوار فقط.

 سرده وحوار.

 لا أسلوب له.

 سرده فقط.

Questionnaire—A Hebrew version

שאלון

מלא הפרטים הבאים:

1. כיתה: _____
2. גיל: _____ (בשנים)
3. מין: זכר/נקבה
4. יישוב: _____
5. האם אבא עובד? כן/לא
6. האם אבא יודע לכתוב ולקרוא? כן/לא
7. האם אמא עובדת? כן/לא
8. האם אמא יודעת לכתוב ולקרוא? כן/לא
9. כמה אחים ואחיות יש לך? _____
10. האם יש מחשב/טבלט בבית? כן/לא
11. מספר שפות אתה יודע/לומד: _____
12. מהי שפת אם שלך? _____
13. איזה שפה/שפות אתה מדבר בבית?

14. איזה שפה/שפות אתה לומד בבית הספר?

15. באיזה שפה אתה אוהב לראות טלוויזיה? _____
16. איזה תכניות אתה אוהב לראות?

17. באיזה שפה? _____

Questionnaire—An Arabic version

استمارة

املا التفاصيل التالية:

1. _____ : الصف
2. _____ : (بالسنوات) الجيل
3. _____ : الجنس ولد/بنت
4. _____ : البلدة
5. هل الاب يعمل? **نعم/لا**
6. هل الاب يجيد القراءة والكتابة? **نعم/لا**
7. هل الام تعمل? **نعم/لا**
8. هل الام تجيد القراءة والكتابة? **نعم/لا**
9. ما هو عدد اخوانك واخواتك ? _____
10. هل لديك جهاز حاسوب/ حاسوب ذكي (تابلت) فالبّيوت ? **نعم/لا**
11. ما عدد اللغات التي تعرفها/ تتعلمها: _____
12. ما هي لغتك الام? _____
13. ما هي اللغة/اللغات التي تتحدثها فالبّيوت? _____
14. _____ ما هي اللغة/اللغات التي تتحدثها/ تتعلمها فالمدرسة?
15. _____ بأي لغة تشاهد البرامج فالتلفاز?
16. ما هي برامجك المفضلة التي تشاهدها ? _____
- _____ بأي لغة هذا البرنامج?