

References

Selected

- Beck, M. S. (1979). *Baby Talk: How Your Child Learns to Speak*. New York: New America Library.
- Fairweather, H. (1976). Sex Differences In Cognition. *Cognition*, 4, 3, 231-281.
- Lorayne, H. and Lucas, J. (1974). *The Memory Book*. New York: Stein and Day.
- Moran, L. (1973). Comparative Growth of Japanese and North American Cognitive Dictionaries, *Child Development*, 44, 862-869.
- Palermo, D. S. (1978). *Psychology of Language*. Illinois: Scott Foresman.

Suggested

- Anglin, J. (1977). *Word, Object and Conceptual Development*. New York: Norton.
- Chaplin, J. P. (1975). *Dictionary of Psychology*. New York: Dell.
- Entwisle, D. (1966). *Word Association in Young Children*. Baltimore: Hopkins Press.
- Ervin, S. (1961). Changes with age in the verbal determinants of word association. *American Journal of Psychology*, 74, 361-372.
- Goss, A. E. and Nodine, C. F. (1965). *Paired-Associates Learning*. New York: Academic Press.
- Holzman, M. (1983). *The Language of Children: Development in Home and School*. Englewood Cliffs: Prentice-Hall.
- Petrey, S. (1977). Word Associations and the Development of Lexical Memory. *Cognition*, 5, 1, 57-73.
- Postman, L. and Keppel, G. (Ed.) (1970). *Norms of Word Association*. Academic Press.
- Ritchie, J. (1974). Culture, Personality and Prejudice, In P. Watson (Ed.), *Psychology and Race*. Chicago: Aldine.

Arabic	Transliteration	English	Sample of Student's Response	
28.	شرطي	shurti	policeman	نظام
29.	كعك	ka'k	cake	حلويات
30.	طويل	taweel	long	جميل
31.	قلم رصاص	qalam risas	pencil	كتابة
32.	ورقة	waraqa	sheet of paper	بحث
33.	ربطة عنق	rabtat 'unuq	neck-tie	أزقة
34.	فرشاة أسنان	furshat asnan	toothbrush	حماية
35.	لحم	lahm	meat	بروتين
36.	موز	mawz	banana	فيتامينات
37.	ديك	deek	cockerel	الصباح
38.	حليب	haleeb	milk	قوة
39.	دم	dam	blood	الضغط
40.	هزلي	hazalee	comic	نكت
41.	حديد	hadeed	iron	متانة
42.	يوم	yawm	day	رزنامة
43.	أفريقي	afreeqi	African	انسان
44.	ماء	ma'	water	حياة
45.	صحراء	sahra'	desert	ضرر
46.	عطلة نهاية الأسبوع	utlat nihajat al usboo'	weekwnd	استحمام
47.	مستشفى	mustashfa	hospital	مرض
48.	عصير	seer	juice	عطش
49.	حصان	hisan	horse	مزرعة
50.	كتاب	kitab	book	مؤلف
51.	سيارة	sayyara	car	مواصلات
52.	أسد	asad	lion	غابة
53.	طفل	tifl	child	الملائكة
54.	هدية	hadiyya	present(gift)	مناسبة
55.	ساندويشات	sandweeshat	sandwiches	جوع
56.	سمين	sameen	fat	صحة

Appendix 2

Word Association Test

Arabic	Transliteration	English	Sample of Student's Response
1. قلم حبر	qalam hibr	pen	كتابة
2. شوكة أكل	shawkat akil	fork	أكل
3. حبر	hibr	ink	امتحان
4. مشط	misht	comb	شعر
5. فرشاة	farsha	mattress	تعب
6. خبز	khubuz	bread	جوع
7. طرزان	tarazan	Tarzan	قوة
8. برتقال	burtuqal	orange	الشتاء
9. صندوق	sundooq	box	مكاتب
10. جندي	jundi	soldier	حرب
11. زواج	zawaj	marriage	استقرار
12. كرة قدم	kurat qadam	soccer	مضيعة للوقت
13. قبل	qabl	before	متأخر
14. سريع	saree'	fast	سباق
15. فوق	fawq	above	متفوق
16. أميركي	amerki	American	انسان
17. بيت	bait	home	راحة
18. أخضر	akhdar	green	زرع
19. نقود	nuqood	money	شراء
20. أفلام كرتون	aflam kartawn	cartoons	أطفال
21. صف مدرسة	saf madrasa	class	دراسة
22. لحية	lihya	beard	رجولة
23. بيضة	balda	egg	فطور
24. سرير	sareer	bed	غرفة نوم
25. حبل	habl	rope	غسيل
26. مكتب عمل	maktab 'amal	offive	مطالعة
27. مدرس	mudarris	teacher	فهم

Appendix I

Types of Associations as Defined by Louis Moran (1973: 116)

1. Functional—the association is between two physical referents (physical objects) used together.

<i>Stimulus</i>	<i>Response</i>
table	chair
tree	fruit

2. Iconic—ascribes a quality to a referent.

<i>Stimulus</i>	<i>Response</i>
apple	red
brave	eagle

3. Enactive—action on referent.

<i>Stimulus</i>	<i>Response</i>
apple	eat
rip	pants

4. Logical—abstract relation between referents.

<i>Stimulus</i>	<i>Response</i>
table	furniture
strong	weak

For (4) 'table' is a member of the superordinate class, "furniture" and 'strong' and 'weak' are adjectives with the opposite meaning.

Moran's Instruction was to say the first word that came to mind when his subjects heard each of the words on his list

ciations and the most enactive ones due to their age and mental growth (i.e., cognitive development).

It is also clear that the Tables of Results do not show any role whatsoever for the religious background in determining the type of word association employed by our subjects. In a word, the order in which the four types of association occur in the tables is a clear indication of a cultural trend that reflects a degree of lack of reasoning on the part of the subjects tested.

Conclusion:

The findings explained above highlight the impact of culture on word association norms. Our Arab subjects have demonstrated that they are best at the iconic type which requires the smallest amount of reasoning compared with the other three types. This pinpoints a cultural attitude among Arabic speakers who tend to accept things readily at face value without going too deeply into things. This attitude is reflected in the high percentages of so-called "immature" word associations made. Mature associations, on the other hand, have been shown to have a direct connection with education: the higher the level of education, the more logical the associations. Sex differences are too few to have any significance: a conclusion also arrived at by Fairweather (1976).

Notes

1. *Culture* refers to the totality of socially transmitted behavior patterns, arts, beliefs, institutions, and all other products of human work and thought characteristic of a community or population.
2. *Laymen* are those who do not have special or advanced training or skill.
3. *Professionals* are those who have an assured competence in a particular field or occupation.

significant role in word association. This could be due to the presence of equal educational opportunities for both sexes and the growing tolerant attitudes towards woman in Jordanian society. It is also contrary to our hypothesis stated earlier that the logical type of association is not the least common of the four types. In fact, the order of the four types of association runs as follows starting with the highest percentage and ending with the lowest: iconic, enactive, logical and functional. This unanticipated result could be due to the fact that iconic and enactive association relate to immediate experiences; they mainly deal with concrete relations that can be identified more easily than the logical and functional types of association. (Examples: Arabic, *burtuqal-ahmar* "orange-red"; *tuffahya? kul* "apple-eat"). These two latter types require a certain level of sophistication as they relate to reasoning and psychological activities respectively. (Examples, Arabic *daliif-qawii* "weak-strong"; *tawilah-kursi* "table-chair").

The tables also show that, as anticipated, university students make more logical associations than the other three types of subjects because of their educational background and academic training. It is also obvious in this regard that professionals make more logical associations than both laymen and children; this is due to their more sophisticated social and career backgrounds. (1) Children make the fewest logical asso-

(1) Table I shows that demale professionals and female laymen share an almost equal percentage of responses regarding the logical associations. The same thing could be said about both male laymen and male professional's responses and performances as far as the employment of the logical association type is concerned. In both cases, this phenomenon could be attributed to the subjects' maturity and experience.

A reading of the Tables of Results shows that male and female school children's performances are not that different concerning the percentages of their responses; sometimes they are identical. For example, 2% (i.e., 117 responses) versus 2% (i.e., 117 responses)=functional; 14% (i.e., 823 responses) versus 12% (i.e., 705 responses)= logical; 29% (i.e., 1705 responses) versus 35% (i.e., 2058 responses)= enactive and 55% (i.e., 3234 responses) versus 51% (i.e., 2998 responses)= iconic. We can notice here that the percentage of responses by female school children regarding the functional type of association is somewhat higher than that of the male children. On the other hand, male and female university students show identical performances: 2% (i.e., 112 responses) versus 2% (i.e., 112 responses)=functional and 21% (i.e., 1176 responses) versus 21% (i.e., 1176 responses)= logical. Sometimes, university male and female students' performances are almost identical. Consider: 7% (i.e., 392 responses) versus 9% (i.e., 504 responses)= enactive and 70% (i.e., 3920 responses) versus 68% (i.e., 3808 responses)=iconic. As for laymen, males and females exhibit almost similar performances: 6% (i.e., 67 responses) versus 3% (i.e., 33 responses)=functional, 15% (i.e., 168 responses) versus 16% (i.e., 179 responses)= logical, 7% (i.e., 78 responses) versus 7% (i.e., 78 responses)= enactive and 72% (i.e., 806 responses) versus 74% (i.e., 828 responses)= iconic. Finally, male and female professionals' performance is almost similar: 1% (i.e., 14 responses) versus 1% (i.e., 14 responses)= functional, 18% (i.e., 252 responses) versus 17% (i.e., 238 responses)= logical, 7% (i.e., 98 responses) versus 5% (i.e., 70 responses)= enactive and 74% (i.e., 1036 responses) versus 77% (i.e., 1078 responses)= iconic.

Looking at the Tables of Results, we notice that contrary to what we originally anticipated, sex distinction plays no

Table II

Percentage of Subjects' Responses Concerning the Word
Association Types Used

Type of Association	School Children		Laymen		Adults University Students		Professionals	
	Male	Female	Male	Female	Male	Female	Male	Female
Functional	2%	2%	6%	3%	2%	2%	1%	1%
Logical	14%	12%	15%	16%	21%	21%	18%	17%
Enactive	29%	35%	7%	7%	7%	9%	7%	5%
Iconic	55%	51%	72%	74%	70%	68%	74%	77%
Total								
Percentage	100%	100%	100%	100%	100%	100%	100%	100%

Table of Results I
Distribution of Dominant Word Association Types

Type of Subjects	Number of Subjects	Functional	Number of Association Types			
			Logical	Enactive	Iconic	
School	105 (Males)	117	823	1705	3234	
Children(1)	105 (Females)	117	705	2058	2998	
University	100 (Males)	112	1176	392	3920	
Students	100 (Females)	112	1176	504	3808	
Laymen	20 (Males)	67	168	78	806	
	20 (Females)	33	179	78	828	
Professionals	25 (Males)	14	252	98	1036	
	25 (Females)	14	238	70	1078	

(1) This type of subject was equally selected from among seven age-groups: 6 years, 7 years, 8 years, 9 years, 10 years, 11 years, and 12 years (i.e., 30 children from each age group).

recall, concentration and imagination, a controlled test was carried out on a representative sample of 500 Arab subjects (210 school children 6 years–12 years, 200 university students] 50 professionals and 40 laymen). This sample consisted of Jordanian school children and adults of sexes. The adults came from different backgrounds: university students] professionals and ordinary people or laymen. Those subjects were given a list of 56 familiar vocabulary items in Arabic, mostly nouns (1) since this type of word is among the first to be acquired by language learners whether native or non-native (Beck 1979: 52–3). The target question was: What does this word remind you of? The subjects were given one minute for each item; they had to put down as many words as they could remember in connection with each item. The whole test took place in one sitting and was allotted sixty minutes which included four minutes for checking answers or revision. (See Appendix 2 for a copy of the test paper, the items of which have been transliterated and translated into English for the benefit of non-Arab readers.)

Results and Interpretation:

After checking the test papers, we found that the subjects' responses to the items given fell under the types of association as defined by Moran and referred to above.

(1) Our 56 list of familiar vocabulary items is never meant to be exhaustive. Compare this number of words with Palermo's (1964)= 25 and Morans (1973)= 65. See section on *Experiment* for more details. Again, our list (see Appendix 11) mostly consists of nouns; however, we employ other parts of speech. Examples: Arabic: qabl "before"= adverbial preposition and samiin "fat"= adjective.

two psychological phenomena established through learning or experience. Palermo (1978: 173) states that the process of association assumes that knowledge is built, acquired, or learnt through the principles of similarity, contrast and contiguity. Furthermore, Moran (1973:116) defined four types of word associations into which he classified his subjects' responses to the items he used as stimuli. Those types were; functional (e.g.] table-chair), iconic (e.g., eagle-bold), enactive (e.g., apple-eat), and logical (e.g., cabbage-vegetable). (See Appendix 1).

No serious attempts have been made to investigate word association and its psychological and cultural implications with regard to native speakers of Arabic. It is, therefore, felt that it is essential to enrich psycholinguistic literature with this type of research and introduce the Arabic speakers to this type of study. By doing so, we become more aware of their power of recall and personality so that sound recommendations in this respect may be offered.

Hypothesis :

We maintain that sex of the person plays a significant role in word association and that the logical type of association is the least common of the four types mentioned above. We also maintain that university students make more logical associations than any other type of subject. On the whole, our main premise is that culture plays a significant role in word associations made by native speakers of Arabic.

Experiment:

To determine the role culture plays in word association and to measure the degree of conscious and subconscious

Word Association and Culture: An Arabic Model

Lutfi A. Abulhaija
Department of English
Yarmouk University

Hisham B. Sawaf
Language Centre
Yarmouk University

Abstract:

This study investigates the role culture plays in word association with specific reference to native speakers of Arabic. A sample of these speakers, of both sexes and of different age groups, was drawn from different social, educational, religious(1) and economic backgrounds. They were given a controlled test, the findings of which displayed a significant cultural function in word association. This function determined the type of association employed by the various types of subject.

Introduction:

Lorayne and Lucas (1974:23-5) point out that in order to remember any new piece of information, it must be associated with something one already knows, observes or remembers. The way in which this type of recall takes place will force the original awareness necessary to remember anything; it will force the concentration and use of imagination as has never been done before, and it will force one to form associations consciously or subconsciously.

Word association is, therefore, the process of forming mental connections between sensations, ideas, or memories it is in fact a functional relationship or connection between

(1) The subjects were mostly Muslims; some were Christians.