

Please cite as:

**Sharifian, F. (2001). I Association-Interpretation: A research technique in cultural and cognitive linguistics. In *Proceedings The 6th Annual Round Table of the Centre for Applied Language and Literacy Research, Edith Cowan University, Western Australia.***

**Association-Interpretation: A research technique in  
cultural and cognitive linguistics**

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There has been growing interest in the study of the human conceptual system across several disciplines and sub-disciplines in the last two decades. Cognitive scientists have been involved in modeling the *architecture* of the human conceptual system. For instance, a fairly recent paradigm in cognitive science called "connectionism" models the human conceptual system as a network composed of a large number of units joined together in a pattern of connections (Rumelhart & McClelland, 1986). Cognitive linguists, on the other hand, have been investigating the *contents* of the human conceptual system and how they are reflected in language (Lakoff, 1987; Lakoff & Johnson, 1980; Langacker, 1987, 1991, 2000).

Cultural linguists (Palmer, 1996) and cognitive anthropologists (Strauss & Quinn, 1997; D'Andrade, 1995) have recognized that knowledge embodied in conceptual systems and reflected in language is in fact deeply ensconced in culture and thus maintain that a thorough account of language should not only unravel cognitive-conceptual structures but should also provide insights into cultural knowledge and its influence on the more general patterns of conceptualization.

The human conceptual system is made up of concepts that are associated with each other in various ways. Terms such as "category" and "schema" have in fact been used to capture two general types of associative relationships. Categories reveal a hierarchical structure of superordinate, basic, and subordinate levels, whereas schemas mainly reveal thematic, event-based, or sequential relationships. 'Food' and 'restaurant' are associated with each other *schematically*, while 'food' is associated with 'pasta' *categorically*.

'Category' and 'schema' have been two pivotal notions in studies of culture and conceptualization. Scholars in this area have been closely examining how different cultures develop and organize their categories and schemas (e.g., Rosch, 1975; Lakoff, 1987; Palmer, 1996). The notions of *cultural schema* and *cultural category* have in fact evolved from such endeavors. The following sections further elaborate on these two notions.

## **Cultural schemas**

Palmer defines schemas as "organic (in Casson's sense) abstractions that subsume conceptualizations that are more specific and more readily imagined as projections into consciousness" (1996, p. 66). Cultural schemas are conceptual structures which enable an individual to store perceptual and conceptual information about his/her culture and make interpretations of cultural experiences and expressions. The investigation of cultural schemas may take several forms. Schemas may be identified by setting up experimental designs (Rice, 1980), recording naturalistic discourse (Hutchins, 1980), or collecting texts (Quinn, 1997). Rice (1980) developed cultural schemas for American and Eskimo story telling. She modified two Eskimo stories written in English to be in consonance with the American schema of story. She presented the original and the Americanized versions to twelve American participants. Participants showed a superior verbatim recall with the Americanized version of the stories. The results pointed to the operation of schemas in processing of written stories.

In following a *naturalistic* approach to the study of schemas, Hutchins (1980) recorded and transcribed the formal dispute between two men in the Trobriand Islands who were both claiming the right to cultivate a particular garden plot. Hutchins shows how their underlying reasoning forms a shared schema about how land claims are to be understood. The third approach to the task of identifying cultural schemas is represented in the work of Naomi Quinn. Quinn's approach is characterized by exploiting "clues in ordinary discourse for what they tell us about shared cognition – to glean what people must have in mind in order to say the things they do" (Quinn, 1997, p. 140). Quinn's strategy is based on a close, extensive analysis of patterns in the use of certain linguistic features that recur in discourse. In a series of studies (1982, 1987, 1992, 1996, 1997), she analyzed interviews about marriage that she had collected and transcribed from eleven North American couples. Quinn analyzed these texts to arrive at the concepts underlying American marriage, and also the cultural model that tied these concepts together.

Employing a similar approach, Malcolm and his colleagues (Malcolm & Rochecouste, 2000; Malcolm, 2000b; Sharifian, 2000a) have identified a number of cultural schemas underlying Aboriginal English discourse produced by the Yamatjis, an Aboriginal cultural group living in Western Australia. By comparing 40 passages, Malcolm and Rochecouste (2000) found certain genre-specific recurring content features and discourse patterns that they associated with a number of underlying cultural schemas. The labels they have used for these schemas are: Travel, Hunting, Observing, Encountering the Unknown, Gathering, Isolation from the Group, Problem Solving, and Borrowed schemas. Certain recurrent features of Aboriginal English oral narrative also appear to give evidence of a distinctive role played by these schemas in discourse *processing* (Sharifian, 2000a). For example, certain referential devices seem to retrieve their antecedents from the schema activated or the image evoked in the mind of the speaker, rather than the linguistic or physical context in which these devices are used. Schemas also appear to operate at an emergent level of societal cognition (Sharifian, 2000b). Knowledge embodied in these schemas, that I have called *societal schemas*, is represented in a distributed fashion across the minds in a society (Sharifian, 2000b).

## **Cultural Categories**

One type of conceptual knowledge is categorical knowledge. Categorical knowledge includes categories and classes and reveals a hierarchical structure of superordinate, basic, and subordinate levels. The study of cultural categories and their properties owes much to Eleanor Rosch (1975). Rosch maintains that "it is possible to define culture in terms of just its system of categories" (1975, p. 177). Lakoff (1987), in a classic study of cultural categories, shows that the noun class system of Dyirbal, an Australian Aboriginal language, is not in consonance with the European notion of categories. Lakoff observes that concepts encoded by nouns in Dyirbal may be classified into four classes: human males (*bayi*), human females (*balan*), edible plants (*balam*), and everything else (*bala*) (1987, p. 99).

At the heart of both schemas and categories lies the notion of *association*. Cognitive categories are developed and formed through the very process of associating concepts with each other. As Palmer (1996) puts it, "People do not typically group concepts into hierarchical taxonomies; instead, they connect them in associative networks, often assigning a single term to refer to a chain of concepts" (p. 92). For example, people associate "birds", "mammals", "fish", "amphibians", and "reptiles" with each other and label them collectively as "animals". During our perception of phenomena we extend our existing associations to establish new associations with the perceived entities. We constantly establish new associations and refine the existing ones in our conceptual system. Network models of human cognition recognize these associations and depict them in the form of "connections" or "pathways" (e.g., Sharifian & Samani, 1997).

In the case of schemas, we associate various events with each other and abstract a template that we call a *schema*. What holds a schema together is again a network of associations between several concepts that act as the default elements of the schema. "Food", "plate", "table", "bill", and so on are associated with each other through the schema of "restaurant" in our conceptual system.

D'Andrade (1991, p. 294) finds *the repetition of associative linkages* the most direct indication of schematic organization in naturalistic discourse. He observes that people circle through the same network of ideas in their long stretches of talks, being generated by a friend, spouse, workmate, informant, or patient (p. 287). Associations might also be formed due to other conceptual criteria such as "*part of x, connected to x, used for x, related to x* (in the sense of kinship), *older or younger than x, different from x, false x, and real x ...*" (Palmer, 1996, p. 92). One form of association is reflected in the use of "metaphors". Metaphors are formed by the very process of associating two separate events or entities from two different domains with each other. "A heart of stone", for instance, reflects an association made between "heart" and "stone", two concepts from two different domains, which are associated here on certain semantic grounds.

Associations may reflect cultural experiences and knowledge. Associating "food" with "meat pie" and "sport" with "cricket" may very well reflect Australian culture. It is this potential of associations to reveal conceptual systems shaped by cultural experiences and reflected in linguistic expression that makes them worthwhile as a subject of systematic enquiry. In this paper I will try to show how a modified version of the classical technique of word-association can be used to tap such cultural-

conceptual systems.

## **Word-Association**

Word-association has proved to be a very powerful technique employed by researchers across all human sciences for more than a century (e.g., Bahar, Johnstone, & Sutcliffe, 1999; Cramer, 1968; Deese, 1965; de Groot, 1989; Schmit, 1998; Zeelenberg, Shiffrin, & Raaijmakers, 1999). In a classic word-association task, informants are presented with a word as the stimulus and are instructed to supply one or more words that comes into their mind. Word-association tasks can take different forms and are usually classified according to two main factors: type of restriction placed on the response to be given to a stimulus (free/controlled), and the number of responses expected to be given to each stimulus (discrete/continued/continuous) (Cramer, 1968; Kruze, Pankhurst, & Sharwood Smith, 1989). The following sections describe these formats.

### **Controlled vs Free Word-Association**

*Controlled*, or bound (de Groot, 1989), word-association tasks are those in which the informant's response behavior is constrained. The constraint in the informant's response may be in terms of the category (e.g., antonym or synonym), word class (e.g., noun or adjective), or the concept (e.g., colour terms), from which the response may be selected. The restriction in the response type may also be created by test format (e.g., multiple-choice tests). In a *free* word-association test, on the other hand, the response to be given by the informant to a stimulus is not restricted to any specific category or class of words. Such tests are commonly referred to as *free-association tests*.

### **Discrete vs Continuous/Continued Word Association**

*Discrete* word-association is a method in which the informant is required to supply the first word which comes to his/her mind when hearing or reading a stimulus word (de Groot, 1989). This method is usually employed in establishing word association normative data. In the method of *continued* word-association, the subject is presented with the same stimulus several times at certain intervals (e.g., 60 seconds) and is required to continue giving associative responses. The subject may also be instructed as to whether or not he/she can give the same responses. Certain modifications with the continued word-association method are possible depending on the purpose of the task. For Instance, it is possible to present the whole list of stimuli several times, instead of one stimulus in each trial, called *successive association* (see Cramer, 1968, for more details and other variants).

In the *continuous* word-association method, the subject is presented with a stimulus word only once and is instructed to generate as many associates as he/she can, usually in a pre-specified period of time. This technique may be used to elicit chains of association to map the associative network of individual subjects. Fosmire used another method called *discrete serial association* for the same purpose (as cited in

Cramer, 1968). In discrete serial association test, the response to the first stimulus would act as the stimulus for the next trial and the response to the second stimulus would act as the stimulus for the third trial and so on.

Robertson (as cited in Cramer 1968) has proposed a *time-limit free* association task in which the subject is instructed to generate as many phrases or sentences as possible within a specified amount of time (20 min optimal). Overall, the choice of the format of word associations largely depends on the aim of the research and the nature of the questions addressed by the study in which the task is employed.

## **Association-Interpretation**

In this section, I will introduce an association task that can be employed to tap cultural conceptualizations, including cultural schemas and categories. The format that I am proposing here is composed of an *association phase* and an *interpretation phase*. During the association phase, a continued word association task is administered. Since the ultimate aim here is to tap conceptual systems and a concept may in fact surface as a phrase or a sentence, any linguistic unit is accepted as a "response".

The second phase is basically composed of eliciting one or more *emic* interpretations of culturally marked responses. Depending on the specific circumstances under which the research is carried out or the attributes of the target population under study, one may decide on the exact nature of this interpretive phase. The ideal would be a combination of a *retrospective probing*, in which the informant is asked to provide an explanation of his or her culturally marked responses plus eliciting interpretive comments, based on cultural intuitions, from one or more speakers from the same cultural background as the informant. This interpretive phase is conducted to arrive at culturally constructed systems which underlie the associations made by the informants. In other words, the interpretive comments are sought to arrive at *cultural semantic networks* embodying cultural schemas, categories, etc. As this adapted version is no longer a "word" association task, and also due to the inclusion of the interpretive phase, I prefer to label it *association-interpretation*.

The stimulus words to be used in such cross-cultural research may be selected by drawing on the intuition of some members of the target cultural group. For example, they may be asked to provide words that cover various aspects of their life, from their belief systems to aspects of the environment in which they reside. This is done to ensure that the target cultural group has had the chance to form conceptual associations with regard to the words which are to be used as stimuli.

In ongoing research on the cultural-conceptual associative system underlying the use of Aboriginal English by urban-dwelling monolingual Australian Indigenous children, I conduct the association phase while an Aboriginal adult (Aboriginal & Islander Education Officer) is present. The rationale behind this procedure is the observation that Aboriginal children respond to a task more readily in the presence of other Aboriginal people. At the same time, the children are making their responses to me, so that there is an authentic communication gap, such as may commonly exist in classrooms where standard Australian English prevails. During the interpretive phase, I rely on my own intuition, the informant's retrospective probing, as well as

interpretive comments from other Aboriginal adults, one of them being the same Aboriginal person who is present during the first phase of the task.

One might argue that the comments given by an Indigenous person on the nature of the associations made by an informant may not in reality reflect the frames of reference used by the informant himself or herself during the word-association task. My position would be that, if comments converge, there is further evidence of an Aboriginal cultural associative frame, such as an Aboriginal schema or category. It should be noted that this technique is proposed to be used to tap cultural-conceptual systems, and an individual's responses are worthwhile so far as they reveal something about an interpersonal system and not about some intra-personal experience or conceptualization.

The following examples are selected from the pool of data collected for the above-mentioned project on conceptual systems in Aboriginal English. The informants in this research project are a group of 50 Aboriginal students, with the age range of 6-13, from Yamatji and Noongar Aboriginal sub-cultural groups<sup>1</sup>, randomly selected from available Perth metropolitan primary schools in Western Australia. The intention here is to show how associations may reveal underlying conceptual constructs and processes. In presenting the association data in the following section, SW will stand for "stimulus word" and R for "response". R1, R2, R3, etc reflect responses given by different informants.

**SW: Kangaroo**

*R1: meat, R2: eat it, R3: eating*

The above associations made in response to the word "kangaroo" reveal that the category that is evoked here is "food" rather than "animal". The interpretive analysis carried out for the above associations points to the fact that in Aboriginal cultures "kangaroo" is a main source of meat and therefore has a significance over and above being just an animal. "Kangaroo" is thus an instance of the Aboriginal category of "food". This example shows how the association-interpretation research technique may reveal cultural associations and cultural contents of categories.

**SW: Kangaroo**

*R: tail*

On the face of it, the above association reveals a whole-part relationship. However, an interpretive analysis revealed that the informant in this case has in fact associated "kangaroo" with "tail" because Aboriginal people make a special kind of stew with kangaroo tail and thus for Aboriginal people "kangaroo" holds an association with "tail" through the category of "food", beside that of "body-part relationship".

**SW: Aboriginal**

*R1: culture, R2: the language, R3: Noongars, Wangies, Yamatjies*

R1 and R2 associative responses, which are schematic rather than categorical, reveal that culture and language are two main concepts associated with Aboriginality in the informants' conceptual system. It should be noted that the word "language" in Aboriginal English means "an Aboriginal language". An important point to note here is how these associations reveal the awareness of the Aboriginal child informants of the distinctiveness of Aboriginal culture and language. R1 and R2 may be compared with R3 which is a categorical association made by an Aboriginal child informant and which reveals his awareness of some Aboriginal cultural groups in Western Australia. It can thus be observed that associative responses elicited in the task employed here may reveal both categorical and schematic cultural knowledge of the participants.

**SW: Deadly**

*R1: Fun, you're happy, you're good, R2: You look deadly, R3: Your work*

**SW: Feed**

*R1: you eat feed, you make feed, da's mean dinner, after you finish feed you put it in the sink and you wash it*

**SW: Shame**

*R1: shy, people are shame*

The above associations reveal some distinctive aspect of the semantic system of Aboriginal English where certain English words are given Aboriginal meanings. The Aboriginal English word "deadly" may be glossed in standard English as "admirable", "feed" as "food", and "shame" as "shy". It should be noted that a direct one-to-one translation of words such as "shame" from Aboriginal English to Standard Australian English may not reveal the complexity of the meanings given to these English words by Aboriginal speakers (Harkins, 1990). Thus, associating "deadly" with "your work" is schematically derived from the sentence "your work is deadly" meaning "your work is admirable". The interpretive analysis revealed that the informant had heard this sentence frequently from the two Aboriginal Educational Assistants teaching them in conjunction with their teachers.

**SW: Group**

*R1: Mob, R2: big mob people*

"Mob" and "big mob people" are in fact Aboriginal English alternatives for the word "group". Thus, it may be inferred that these associations are made on the basis of translation of the word "group" into Aboriginal English (although in Aboriginal English 'mob' has other meanings as well). What is important to note here is the fact that these associations also reveal the child informants' awareness of dialectal differences between Aboriginal English and Australian English.

**SW: Speak**

*R: Sometimes speak like wadjellas*

The above association shows the awareness of the Aboriginal child informant of the fact that the type of English spoken by wadjellas (i.e., non-Aboriginal people) is different to the dialect he usually speaks. On a general developmental level, this association points to the conscious awareness, on the part of the 6-year-old child informant, of the development of two dialects in his linguistic repertoire.

**SW: Aboriginal**

*R: Noongars, wangies, Yamatjies, Kennedys, Noongars kids, Noongar's uncle, Noongar's pop, Noongar's nan, Noongar's brothers, 'n sisters, 'n aunnies, yr cousin, 'n yr mum ' dad, yr friends*

**SW: Dream**

*R: Cousins, 'n uncles, 'n brothers, 'n mum , 'n dad, tiger, 'n a crocodile, snakes, koalas, dolphin, 'n sharks*

**SW: Home**

*R: Families, clean, live, mum and dad, sisters an' aunnies, an' uncles an' aunnies, an' cousin, an' brothers, an' you look after it, got your own bed, and it got lounge, kitchen, an' table*

**SW: People**

*R: Families, an' your uncles, an' your brothers, 'n your cousins, sisters, and aunnies, 'n your uncles, 'n your pop, an' your mum and your dad, an' mum*

**SW: Life**

*R: Uncles, mum, dad, brothers, sisters, aunnies, cousins, pop, 'n nan, sisters*

**SW: Walk**

*R: Walk with your aunnies, walk with your uncles, walk with your mum and dad, walk with your pop and nans, 'n uncles, 'n cousins, 'n your mum, 'n your cousin, 'n your sisters, and walk with your dog*

**SW: Mum**

*R: Mum'd take you to shops, mum'd take you to your brothers, 'n yer aunnies, 'n yer uncles, 'n to yer brothers, 'n yer sisters, 'n cousins, 'n then back home*

**SW: Camping**

*R: Camping with your uncles, sisters, and your uncles, pop, and nan, brothers, 'n sisters, uncles, cousins, 'n, mum'n dad, 'n nan 'n pop*

**SW: Go out**

*R: go out somewhere, go to stay night, go to your nan, 'n go out to your nans and aunnies, and your mum and dad and brothers and sisters*

The above associations made by an Aboriginal child all instantiate the Aboriginal societal schema of "Family" (Sharifian, 2000b). "Family" is a central concept in Aboriginal culture to the extent that "[w]hen people talk about being Aboriginal, they invariably talk about Aboriginal family relationships" (Eades, 1988, p. 98). What is interesting to note about the above pattern of associations is how the concept of "family" is associated with concepts which run through various aspects of Aboriginal life such as "dream", "home", "camping", "walking", and "going out".

The above associations also reveal that the concept of family for the Aboriginal child goes well beyond the scope of nuclear family to include cousins, grandparents, etc. It is also to be noted that for the Aboriginal child the family network does not

necessarily start with "mum and dad", as the responses sometimes start with "aunnies" and some other times with "pop and nan" or "uncles". This pattern derives from the observation that Aboriginal children spend a lot of time with their extended family and also the fact that Aboriginal children are the responsibility of all the members of their extended family including uncles, aunts, and cousins. Associating "home" with all the members of the extended family is also due to the fact that for many Aboriginal children "home" means wherever members of their extended family live, be it one's uncle's house or aunt's house. Differences in conceptualization such as this have often resulted in miscommunication between Aboriginal children and non-Aboriginal teachers.

**SW: Take away**

*R: You take something away, and you steal*

Although "take away" in English simply means "remove or carry elsewhere", the above schematic association made by an Aboriginal child shows an additional meaning of "stealing" attached to it. This shows the informant's awareness of the historical sorry event of the separation of Aboriginal and Torres Strait Islander children from their families, which has been given the title of "stolen generation". Aboriginal people considered this attempt to be "stealing" of their children.

**SW: Important**

*R: Important is fire*

The above association shows the importance of fire in Aboriginal life. As Noongar Glenys Collard (1997) puts it, "Fire is an essential part of Noongar life. Old fullahs used it for many things an' still do today a fire must burn and be kept burnin' for many reasons. One reason was to keep evil spirits away, also to talk to the dead fullahs through the fire asking them for hellp ..." (p. 9).

**SW: Hunting**

*R: 'unting food, 'unting kangaroos, 'unting for dinner*

The stimulus word "hunting" has apparently activated the Aboriginal cultural schema of Hunting (Malcolm & Rochedouste, 2000) in the informant's mind. Hunting is of great cultural significance to Aboriginal people. Apart from the food providing aspect of it, hunting spans generations and, to the people who participate in it, forms an important thread in the cultural tapestry of who they are and where they come from.

**SW: Kangaroo**

*R: You spear at Kangaroo*

The interpretive analysis suggested that most probably the above association is made based on the stories heard by the Aboriginal child informant about her ancestors

hunting Kangaroos with spears. Nowadays Noongar Aboriginal people usually hunt Kangaroos using rifles rather than spears. This association supports the idea that Aboriginal children may form schemas by listening to their elders telling them stories about their own and their ancestors' experiences, as well as by input from non-verbal sources, rather than experiencing the events (Sharifian, 2000b).

### **SW: Dream**

*R: Dream of something*

Aboriginal people sometimes use "something" in referring to some inexplicable spiritual phenomena that they may have experienced either in dream or while awake. The above association may thus have been made on the same grounds. That is, the Aboriginal child might have been thinking, at the time of association, about a spiritual phenomenon that she had dreamed of.

### **Conclusion**

It is evident, from the examples presented above, that the technique proposed in this paper has the potential of tapping cultural conceptualizations of the experience couched in schemas, categories, etc. We have also seen that a close scrutiny of the data collected using this technique may shed light on certain cognitive characteristics, such as "bidialectal awareness". The results obtained by administering the association-interpretation technique may best be utilized in informing educators working with cultural groups, such as Aboriginal children, about their cultural conceptualizations, which are often reflected in their use of language. Overall, such findings may be used in developing materials for and implementing bidialectal or bilingual programs.

### **Notes:**

<sup>1</sup> These are groups dwelling traditionally within the south-west of Western Australia and having experienced very substantial language shift to English.

### **Acknowledgments:**

I wish to thank Professor Ian Malcolm for his helpful suggestions. I would also like to express my gratitude to Noongar Colleen Sherratt and Noongar Denise Ali-Smith for their contribution to this paper.

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