

# Analysing Culture and Interculture in Saudi EFL Textbooks: A Corpus Linguistic Approach

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## Abstract

This paper combines corpus processing tools to investigate the cultural elements of Saudi education of English as a foreign language (EFL). The latest Saudi EFL textbooks (2016 onwards) are available in researchable PDF formats. This helps process them through corpus search software tools. The method adopted is based on analysing 20 cultural topics (nodes), namely climate, clothing, eating, education, family life, geography, history, holidays, humour, language, leisure, meeting people, currency, pets, population, religions, social occasions, sports, transportation and vacations. Function words, verbs, adjectives and punctuation were removed from the files of Saudi EFL textbooks. This guarantees searching for only cultural content words that are associated with the 20 selected cultural topics. The processing of the associations helps identify the type of culture quantitatively: local culture, target culture and interculture. The results show that local Arabic cultural words are more frequent than target English cultural words, and the latter is more frequent than the intercultural words. This highlights a lack of intercultural examples in the whole corpus of Saudi EFL textbooks.

**Keywords:** Saudi EFL textbooks, cultural content, interculture communicative competence

## 1. Introduction

There is a plethora of research tackling the issue of cultural diversity and patterns in language acquisition and language learning. Such studies have focused on the concept of cultural knowledge, as opposed to intercultural knowledge, in teaching or learning a foreign language, given the underlying significance of the cultural context when language usage requires intercultural communication competence (ICC; e.g. Corbett, 2003; Gudykunst & Kim, 2003; Heath, 1986; Risager, 2008). In this vein, according to a study carried out by Chinh (2013), several key points need to be considered in the EFL curriculum design and textbooks, where the English language is widely employed as a central medium of communication, or English as a lingua franca. English learning, hence, is at the forefront and gains more visibility among learners from various cultural backgrounds and ethnic groups covering all areas of social, cultural and political life.

Global studies consider ICC of the English language, defined by Corbett (2003, p. 2), to be an approach to train learners to become diplomats in the differentiation of cultural diversity 'from a formal and educational perspective of informed understanding'. This implies that the cultural content of English textbooks integrated into the ICC curriculum should not be limited to cultural paradigms of the target English language only, but also the universality of cultural diversity. Baker (2012) further highlights the importance of overcoming the underlying complexities and intricacies of diversity within the cultural patterns of targeted English language, particularly British and American cultures, as that the purpose of learning intercultural competence is to gain insight into and understanding of several cultural contexts from a wider variety of countries with a core focus on cultivating and fostering English language learners' ICC. A recent analysis of published Saudi EFL textbooks, seemingly on the level of undergraduate, has been conducted by Aldera (2017). This study analysed the objective of contents in terms of reading, writing and listening and speaking. However, this study has only categorised the title of each textbook into five cultural contents: target culture, Middle East culture, Saudi culture, International Culture, culture free, but without paying attention to the lexical/textual details inside each textbook. It seems that such a study has required a lot of effort due to being reliant on manual coding. Surprisingly, Aldera showed that those Saudi EFL textbooks are disappointingly neglecting the local culture of Arabs in English. However, reports on policies and practices for teaching sociocultural diversity (Arnesen et al., 2008), developed by the Secretariat

and Bureau of the Steering Committee for Education and adopted since 2005, have prompted me to consider how far cultural variations reflected in words are aligned with the teaching of cultural diversity in the textbooks. This report was politically motivated to serve as a basis for the protection of cultural and intercultural variations as diversity is no longer distinct from the protection of human rights.

As English is at the centre of the international and global target culture and biculturalism across the globe and recognised as the global lingua franca among learners from different ethnic groups and various identities, the purpose of the present paper is not only to present examples of Arabic (local), English (target) and inter-cultural elements in English textbooks in Saudi schools, but it also aims to provide a quantitative analysis of these culture types. The analysis will be focused on the Saudi EFL textbooks, from the fourth grade of elementary school up to the third secondary grade, as the English language is not taught to first, second or third graders in the Saudi educational system.

## 2. Culture versus Interculture

Teaching culture through language has been referred to as a mandatory element of language acquisition. There are a wide range of theories on teaching a language as a second language or teaching a language as a foreign language in culturally diverse textbooks. Moreover, several models have sought to develop a conceptual framework for cultural teaching and learning (Brooks, 1975; Nostrand, 1974).

Paige, Jorstad, Siaya, Klein, and Colby (2003) offer an exhaustive overview of the theoretical and empirical research pertaining to learning culture, together with the role of culture in foreign language teaching. Combined with an emphasis on key research conducted during the last decade of the twentieth century (for example, Bragaw, 1991; Grittner, 1990; Moore 1991), the current study makes reference to how the objectives of learning culture in the English language can be fulfilled in order to attain social, linguistic and communicative competence in interactional settings. In addition, a team of experts in intercultural studies at the Centre for Advanced Research on Language Acquisition, with the support of the Department of Education at the University of Minnesota, began work on the Intercultural Studies Project aimed at funding conferences and research regarding fostering the teaching of culture (see Paige et al., 2003). It is relevant to note the proposed model of the background studies pertaining to culture learning in language acquisition, in the sense that culture is seen as a dynamic and variable entity involving an intricate, highly structured set of complex behaviours by the communities of the native language to be acquired. Furthermore, it is difficult to set forth a strict theoretical framework for the meanings of culture-bound words which can mean different things in different cultures and human interactions. However, such theoretical frameworks can achieve good results for learners' acquisition of foreign language cultural patterns while teaching culture. Teaching a language as a foreign language and the design of cultural content in language teaching materials can be very helpful in attaining intercultural competence and avoiding restrictions on intercultural communication (Robinson-Stuart & Nocon, 1996).

The 'conceptual model' proposed by Paige et al. (2003, p. 178) suggests that differences need to be distinguished between what is generally referred to as 'the culture-specific versus the culture-general domains of learning'. Culture-specific domains are indicated by 'target culture', i.e. small communities in a language group. Culture-general domains refer to what is more generalisable and transmittable across cultures. These two domains can also differ in terms of attitudes, behaviour and knowledge (Bloom, 1964; Damen, 1987; Poppi, 2017).

Qu (2010) developed a milestone framework on teaching culture through several devices such as dialogues, mini dramas, role playing, dances, songs, pictures, films, bulletin boards and engaging in conversations with native speakers. Qu highlights some key points pertaining to the significance of cultural diversity in language teaching. The primary purpose of learning a language is to engage in conversations and interactions with native speakers. Consequently, cultural acquisition of the culture of that foreign language makes learners aware of the patterns covering behavioural and social culture that satisfy the generally recognised psychological and physical needs within the community of native speakers. These needs stress the importance of cultural awareness of the learned language. Culture and language are absolutely inseparable, and culture is an indispensable principal factor, as also suggested by Shemshadsara (2012), for teachers preparing their learners for intercultural communication through the learned foreign language.

Moreover, language is not only limited to the use of words as per their lexical and contextual meanings, but also in how the word is understood by native speakers. Understanding the culture on its own is not sufficient either; intercultural communication must not be limited to knowing about another culture, as it helps to learn about how to understand the world through the culture of the learned language (Liddicoat, 2002). Thus, the understanding of a cultural context is different from the understanding of a cross-cultural context. This fully applies to the

English language as the lingua franca (e.g. see Chinh, 2013; Holliday, 2009; Holmes & Dervin, 2016; Poppi, 2017).

However, in the next sections this analysis of the Saudi EFL textbooks will focus on the interpretation of quantitative analysis results in terms of the core set of lexical units relevant to local culture, the lexical units relating to the target 'English' language, and the lexical units pertaining to the intercultural concepts.

### 3. Processing Tools, Data and Method

The stand-alone corpus processing tools found in the literature and applications of corpus linguistics are as follows: Sketch Engine (Kilgarriff, 2014; Kilgarriff, Rychly, Smrz, & Tugwell, 2004), aConCorde (Roberts, 2014), AntConc (Anthony, 2014), WordSmith Tools (Scott, 2012) and IntelliText Corpus Queries (Sharoff, 2014). All these tools are open corpus search software tools except Sketch Engine and IntelliText, which are web-based corpus sources. Having the capability to process English texts gives these tools a better chance to be utilised by researchers worldwide on the one hand, and to be used in corpus linguistic approaches to English on the other. The functions of the stand-alone computer software tools help the researcher to conduct corpus-based studies by uploading multiple folders containing text files. The following criteria were used to select two of these tools for the purpose of analysing cultural diversity in the Saudi K–12 student textbooks of EFL teaching, namely AntConc and WordSmith Tools. The reasons for choosing them are as follows:

- 1) The frequency and relative frequency of types/tokens and documents in the selected folders.
- 2) Supporting TXT. format and ANSI or UTF-8 encoding.
- 3) Statistical corpus linguistics that test the strengths/weaknesses of collocations and associations between the node and its extended n-grams, in addition to the ability to test the null hypothesis, relative frequencies and type-token ratios.
- 4) The accuracy of retrieving the n-grams of the node (the focal word intended to be analysed) precisely, as it shows randomly the extent of the n-grams (from 5n-grams) on either side of the node. This varying n-grams' span guarantees the detection of the experimental analysis (the extent to which local, target and intercultural are distributed).

This paper uses the following statistics to sketch and examine the collocates of the cultural topics (the nodes): the 5n-gram span before and after the selected nodes, and its stat column that shows the mutual information (MI) score in AntConc. The MI simply shows the significance and insignificance of the collocates associated with the selected nodes. Other statistics such as type-token ratios and standard deviations can be calculated via WordSmith Tools. However, the discussions on the natural texts of selected cultural topics and their collocates is focal. These discussions will illustrate the use of local, target and intercultural of English further and show the degree to which local, target and intercultural are fostered.

The selected Saudi K–12 EFL textbooks were published between 2016 and 2017. These series are the most up-to-date EFL textbooks designed and distributed to schools for grade 4 to grade 12. As detailed in Appendices A, B and C, they consist of multitask books for each particular grade. There are 15 EFL textbooks designed for elementary schools (Appendix A). These books fall into three categories. The first category is named *Smart Class* and is aimed at completing exercises, while the second and third categories, i.e. *Get Ready* and *We Can*, are full of listening and reading tasks, but the longest sentence in these three categories is no longer than four words. In Appendix B, there are 12 books for intermediate school, which contain numerous exercises and grammar, i.e. *Full Blast* and long sentences in the *Life Off* series. Appendix C shows the categories for high school.

Regarding the statistics of the three files, i.e. each file encompasses one of the three consecutive school levels (i.e. elementary, intermediate and high school), the overall tokens (the number of words) in each are almost five times as large as the next level. What matters here is the type-token ratios, which gives a similar value among the three levels of 3.47, 2.60 and 2.71, respectively. This means that the ratios in each have less variety between type and token. Investigating the cultural topics and their relevance to either local, target or intercultural requires careful techniques. The three files of the EFL textbooks that represent the three Saudi school levels are processed by two English corpus processing tools and are analysed according to 20 selected cultural topics (Section 4). Using a multi-approach method of analysis, 20 particular cultural topics (nodes) were identified in the processed Saudi EFL textbooks, by singling out whose slots are filled in with the individual cultural topics. The distributions and associations of the content words, apart from verbs, adjectives and adverbs and function words, that are collocated with the node spelled out by each cultural topic are tested for the source culture (Arabic, as the target students for the processed Saudi EFL textbooks are designed for Arab students in the governmental

schools in Saudi Arabia), the target culture (English and its target culture of native English-speaking countries) and the intercultural to be checked by corpus processing tools. Hence, the method proposed to detect the extent to which the three types of culture (local Arabic culture, English target culture or intercultural) are fostered in the Saudi EFL textbooks is that the collocates associated with the selected 20 cultural topics (the nodes) are the key to identify which cultural type in particular is detected computationally. This is conducted by specific techniques that help detect such collocates.

#### 4. Techniques and Findings

What cultural topics should be considered for analysis in this article? The literature on language acquisition usually pays attention to psychological and conceptual modes and profiles. Cultural diversity is complicated and cannot be tackled easily as it is immersed in a mishmash of ethnicities, linguistic communities, anecdotes, metacontexts and so on. Such a complication redirects me to consider particular cultural topics (Cakir, 2006). These topics are as follows: climate, clothing, eating, education, family life, geography, history, holidays, humour, language, leisure, meeting people, currency, pets, population, religions, social occasions, sports, transportation and vacations. Their frequencies after I analysed the three files of the three Saudi EFL textbooks' levels as nodes (n) are given in Table 1.

Table 1. The results for selected cultural topics in Saudi EFL textbooks for three school levels

	Distributions of analysis-related topics		
	Elementary schools	Intermediate schools	High schools
Climate	*	n = 80	n = 58
Clothes	n = 45	n = 196	n = 55
Eating	n = 26	n = 172	n = 158
Education	n = 5	n = 42	n = 161
Family life	n = 130	n = 243	n = 522
Geography	n = 31	n = 59	n = 25
History	n = 5	n = 91	n = 254
Holidays	n = 58	n = 349	n = 432
Humour	*	n = 7	n = 7
Language	n = 20	n = 225	n = 572
Leisure	*	*	n = 56
Meeting people	*	n = 45	n = 180
Money (Currency)	*	n = 218	n = 973
Pets	*	n = 66	n = 18
Population	*	n = 58	n = 66
Religions	*	n = 19 < Islam n = 23	n = 5 < Islam n = 16
Social occasions	*	n = 6	n = 23
Sports	n = 71	n = 222	n = 397
Transportation	*	n = 1	n = 33
Vacations	*	*	n = 62

The functions of detecting the collocates (culture type's identifiers CTIs) of the selected cultural topics (the nodes *n*) in the textbooks and of the associations that show the type of culture (local, target or inter) are explained next. Collocations of co-occurrences and the ability to sort out lists that show the frequencies and distributions in a 5n-grams concordancing span are essential (Shimohata & Nagata, 1997). Regarding the techniques that I processed in detail, there are four main technical steps to process the type of culture in the Saudi EFL textbooks of the three school levels, each of which is relevant to one school level. The techniques adopted in retrieving the relevant collocates (CTIs) with the selected cultural topics (the nodes) are as follows:

- 1) Each file containing the whole text of one of the three Saudi EFL textbooks' levels is processed separately in AntConc. I have used the function of the *stop list* including English function words: prepositions, conjunctions, particles, etc. to obtain results for only content words associated with selected cultural topics (nodes) in a span of 5n-grams. In addition, verbs, adjectives and adverbs were excluded from the results.
- 2) After processing the first text file of the Saudi EFL textbooks at the elementary school level, AntConc searched for 20 selected cultural topics; the span selected was 5n-grams. The result showed that only 9 cultural topics (*n*) occurred. The CTIs associated with those nine cultural topics are labelled as collocates (Table 2).
- 3) After processing the second text file for the Saudi EFL textbooks at the intermediate school level, AntConc searched for 20 selected cultural topics; the span selected was 5n-grams. The result showed that only 16 cultural topics (*n*) occurred. The CTIs associated with those 16 cultural topics are labelled as collocates (Table 3).
- 4) After processing the third text file of the Saudi EFL textbooks of high school level, AntConc searched for 20 selected cultural topics; the span selected was 5n-grams. The result showed that all the cultural topics (*n*) occurred. The CTIs associated with those 20 cultural topics are labelled as collocates (Table 4).

The statistical measure MI between the cultural topics (nodes) and the collocates (the words that define the type of culture) refer to the degree of statistical significance. MI scores that are higher indicate a stronger association in the whole text file. Scores (probabilities) that are lower than three have no statistical significance (Church & Hanks, 1989; Fano, 1961, pp. 46–57; Oakes, 1998, pp. 63–65). If the probability of observing the node and the collocate occurring dependently and that of both occurring independently are less than three, the association between them, the node and the collocate, becomes weak. The strong association and weak association between the cultural topics (the nodes) and their collocates should be provided. This, at least, guarantees the detection of the whole scenario of the strong/weak associations between the local, target and intercultural collocates and the nodes, and to abide by the criteria of statistical corpus linguistics for representing the strong/weak associations.

Each collocate (CTI) has been labelled with its own type of culture: (L) to indicate the Arabic local culture, (T) for the English target culture and (I) for intercultural. The number of the associated collocates (CTIs) and of their co-occurrences with the node (co-) are also given in Tables 2, 3 and 4, in addition to the number of co-occurrences (co-) and MI.

Table 2. The collocates of the analysed cultural topics (L, T and I) and their co-occurrences in the elementary schools' EFL textbooks

Text file	Collocates	CTIs: co-	MI
clothing.txt	chants_(I)/ UK_(T)/ mosque_(L)/ Saudi_(L)/ Sahar_(L)/ Islamic_(L)/ Helen_(T)/ beach_(I)	8: 15	8.06093/ 4.51661/ 4.25358/ 4.10157/ 2.94545/ 2.76325/ 2.43644/ 1.80669
eating.txt	ometi_(I)/ omelet_(I)/ apples nose_(I)/ burger_(I)	4: 120	5.71670/ 5.71670/ 5.71670/ 5.45367
education.txt	Oxford_(T)/ Macmillan_(T)/ Jeddah_(L)	3: 8	12.99504/ 10.92465/ 7.70964
family.txt	Omar_(L)/ Dammam_(L)/ Wafa_(L)/ hummus_(L)/ Fatima_(L)/ Mohammed_(L)/ Ali_(L)/ Saud_(L)/ Sami_(L)/ Afaf_(L)/ Jeddah_(L)/ Saudi_(L)/ English_(T)/ Helen_(T)/ Sarah_(L)/ Arabia_(L)/ Riyadh_(L)	17: 50	7.51751/ 7.15494/ 6.73990/ 6.73990/ 6.73990/ 5.41797/ 4.84734/ 4.83301/ 4.65244/ 4.65244/ 3.45450/ 3.41797/ 3.12519/ 2.85238/ 2.73990/ 2.58003/ 2.53045
geography.txt	Islamic_(L)/ England_(T)	2: 16	7.44582/ 4.33411
history.txt	English_(T)/ Islamic_(L)	2: 6	7.31322/ 7.04529
holiday.txt	Oman_(L)/ Kuwait_(L)/ Abhā_(L)/ Bahrain_(L)/ Emirates_(L)/ Jordan_(L)/ Saudi_(L)/ Dubai_(L)	8: 13	10.28933/ 10.28933/ 10.28933/ 5.76577/ 4.74501/ 4.70437
language.txt	English_(T)	1: 7	9.05644

sports.txt	scuba_(I)/ hang_(I)/ basketball_(I)/ golf(T)/ tennis_(I)/ volleyball_(I)/ football_(I)/ skateboard_(I)/ ski_(I)/ climbing_(I)/ swimming_(I)/ match_(I)	12: 102	9.10196/ 7.91433/ 6.51700/	9.10196/ 7.51700/ 6.43899/	8.78880/ 7.10196/ 5.98648/	8.68692/ 6.78003/ 4028775
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Table 3. The collocates of the analysed cultural topics (L, T and I) and their co-occurrences in the intermediate schools' EFL textbooks

Text file	Collocates	CTIs: co-	MI
climate.txt	London_(T)/ international_(I)/ hotter_(I)/ Britain_(T)/ Arabia_(L)/ America_(T)/ floods_(I)/ droughts_(I)	8: 17	4.43296/ 4.43296/ 4.43296/ 4.43296/ 4.43296/ 4.43296/ 2.84800/ 2.84800
clothing.txt	Wendy_(T)/ Tracey_(T)/ Tie_(I)/ Tidied_(I)/ Tatra_(I)/ Tala_(I)/ scarf_(I)/ Muslim_(L)/ megs_(I)/ kimonos_(I)/ Jeff_(T)/ Jamie_(T)/ Italian_(I)/ Islamic_(L)/ ihram_(L)	15: 21	5.33642/ 5.33642/ 5.33642/ 5.33642/ 5.33642/ 5.33642/ 5.33642/ 5.33642/ 5.33642/ /5.33642/ 5.33642/ 5.33642/ 5.33642/ 5.33642/ 5.33642
eating.txt	Harry_(T)/ Chinese_(I)/ kabsa_(T)/ dates_(T)/ croissant_(I)/ chopsticks_(I)/ pasta_(I)/ falafel_(T)	8: 14	5.62936/ 5.04439/ 4.04439/ 4.04439/ 4.04439/ 4.04439/ 3.04439/ 3.04439
education.txt	Crinan_(T)/ French_(I)	2: 8	9.62473/ 8.40233
family.txt	Omar_(L)/ Yasser_(L)/ London_(T)/ Faisal_(L)/ Reemas_(L)/ Italy_(I)/ Sami_(L)/ Australia_(T)/ Hassan_(L)/ England_(T)/ Saudi_(L)/ English_(T)/ Jason_(T)/ James_(T)/ Jameela_(L)/ Ibrahim_(L)/ Alasiri_(L)	17: 32	6.93255/ 6.73990/ 5.83301/ 4.83301/ 4.65244/ 4.41797/ 2.78571/ 2.65244/ 2.19558/ 2.12519/ 0.0/ 0.0/ 0.0/ 0.0/ 0.0
geography.txt	Egypt_(T)/ England_(T)/ French_(I)/ Riyadh_(L)/ Kuwait_(L)/ Arabia_(L)	6: 14	7.10221/ 7.10221/ 6.45013/ 6.45013/ 6.10221/ 6.10221/ 5.29485
history.txt	Italian_(I)/ Steve_(T)/ Lisa_(T)/ Linda_(T)/ Lewis_(T)/ Italy_(I)/ Islam_(L)/ Saudi_(L)/ Oxford_(T)/ Egypt_(L)/ Canada_(T)	11: 19	5.79961/ 4.79961/ 4.79961/ 4.79961/ 4.79961/ 4.79961/ 4.79961/ 4.79961/ 4.79961/ 4.79961/ 4.79961/
holiday.txt	Tsunami_(I)/ Moscow_(I)/ Mexico_(I)/ Jeddah_(L)/ Egypt_(L)/ French_(I)	6: 6	5.87367/ 5.87367/ 5.87367/ 3.06631/ 2.17323/ 1.35010
language.txt	International_(I)/ Islamic_(L)/ British_(T)/ Brazil_(I)/ English_(T)/ Arabic_(L)	6: 68	4.68850/ 4.63405/ 4.63405/ 4.63405/ 3.88559/ 3.84556
meeting people.txt	Egyptian_(L)	1: 1	3.87242
money.txt	Coin_(I)/ Zakat_(L)/ Riyal_(L)/ Pound_(T)/ Pence_(T)/ Euro_(I)/ Peru_(I)/ Penny_(T)	8: 14	6.00360/ 5.00360/ 5.00360/ 5.00360/ 5.00360/ 5.00360/ 4.41863/ 4.41863
occasion.txt	date_(I)/ camel_(L)	2: 2	4.87213/ 7.87231
pet.txt	Fays_(I)/ rite_(I)/ fish_(I)/ spider_(I)/ snake_(I)/ goldfish_(I)	6: 29	7.78218/ 7.51914/ 7.36714/ 6.78218/ 5.78218/ 5.78218
population.txt	York_(T)/ Washington_(T)/ Riyadh_(L)/ Ottawa_(T)/ Muslim_(L)/ Egypt_(L)/ nomadic_(I)/ international_(I)/ Arabic_(L)	10: 13	7.38890/ 7.38890/ 7.38890/ 7.38890/ 7.38890/ 7.38890/ 5.80394/ 5.80394/ 5.80394/

	Saudi_(L)		5.14097		
religion.txt	Mosque_(L)/ Friday_(L)/ Muslims_(L)	3: 6	5.45066/ 4.45066/ 4.28074		
sports.txt	Safaris_(I)/ rock_(T)/ rob_(T)/ rite_(I)/ riding_(I)/ Ramla_(I)/ karate_(I)/ jumping_(I)/ jogging_(I)/ Nasir_(L)/ Olympic_(I)/ tennis_(I)/ gymnastics_(I)/ swimming_(I)/ surfing_(I)/ rink_(I)/ ride_(I)/ race_(I)	18: 38	4.59402/ 4.59402/ 4.59402/ 4.59402/ 4.59402/ 4.59402/ 4.59402/ 4.59402/ 4.59402/ 3.59402/ 3.42409/ 3.37162/ 3.37162/ 3.00905/ 3.00905/ 3.00905/ 3.00905/ 3.00905		

Table 4. The collocates of the analysed cultural topics (L, T and I) and their co-occurrences in the high schools' EFL textbooks

Text file (node)	Collocates	CTIs: co-	MI		
climate.txt	Tuscany_(T)/ Toffler_(T)/ Europe_(I)/ dry_(I)/ desert_(I)/ Britain_(T)	6: 6	4.73903/ 4.73903/ 4.73903/ 4.73903/ 4.73903/ 4.73903		
clothing.txt	Egan_(T)/ Ortega_(I)	2: 3	8.86186/ 5.05451		
eating.txt	Chinese_(I)	1: 9	5.57577		
education.txt	Religion_(L)/ London_(T)/ local_(L)/ French_(I)/ Islamic_(L)/ Islam_(L)/ Arabic_(L)	7: 13	4.53507/ 4.53507/ 4.53507/ 4.53507/ 4.53507/ 4.53507/ 4.53507		
family.txt	Jeffrey_(T)/ Jacobs_(T)/ Jackson_(T)/ European_(I)/ England_(T)/ Egypt_(L)/ London_(T)/ local_(L)/ Riyadh_(L)/ Makkah_(L)	10: 17	4.71765/ 4.71765/ 4.71765/ 4.71765/ 4.71765/ 4.71765/ 3.71765/ 3.71765/ 3.13269/ 3.13269		
geography.txt	Islamic_(L)/ English_(T)	2: 4	4.57087/ 4.57087		
history.txt	Religions_(L)/ religion_(L)/ Jordanian_(L)/ Islamic_(L)/ Indians_(I)/ Indian_(I)/ Hammurabis_(I)/ Rosholt_(T)/ Americans_(T)/ American_(T)/ English_(T)/ Saudi_(L)/ Riyadh_(L)	13: 54	4.79494/ 4.79494/ 4.79494/ 4.79494/ 4.79494/ 4.79494/ 4.79494/ 4.79494/ 4.79494/ 4.79494/ 4.14287/ 4.05798/ 3.79494		
holiday.txt	Skiing_(I)/ Spanish_(I)/ Sheikh_(L)/ Sharm_(L)/ Miami_(T)/ Mexican_(I)/ Greece_(I)/ Canadian_(T)/ camel_(L)/ Beijing_(I)/ Bahamas_(I)/ America_(T)/ Spain_(I)/ American_(T)/ Africa_(I)/ Cuba_(I)/ China_(I)/ Australia_(T)/ Abhor_(L)/ English_(T)/ Saudi_(L)	21: 48	5.53898/ 4.60609/ 4.60609/ 4.60609/ 4.60609/ 4.60609/ 4.60609/ 4.60609/ 4.60609/ 4.60609/ 4.60609/ 4.28417/ 4.02113/ 3.60609/ 3.02113/ 3.02113/ 3.02113/ 2.43617/ 2.28417		
humour.txt	Grey_(T)/ doughnut_(T)	2: 5	4.59991/ 4.59991		
language.txt	Morocco_(L)/ Egypt_(L)/ Venezuela_(I)/ Russian_(I)/ Germany_(I)/ British_(I)/ Saudi_(L)	7: 16	4.91558/ 4.91558/ 4.59365/ 3.59365/ 3.59365/ 3.59365/ 1.271715		
leisure.txt	Watersports_(I)/ warmup_(I)	2: 2	4.83245/ 4.83245		
meeting people.txt	Manchester_(T)/ Trevor_(T)/ Riyadh_(L)/ Peter_(T)	4: 5	5.78200/ 4.7820/ 4.78200/ 2.78200		
money.txt	Cowrie_(I)/ Trophies_(I)/ Tronic_(I)/ rited_(I)/ Costa Rica_(I)/ Ramirez_(I)/ Rafael_(I)/ Orleans_(T)/ Mexico_(I)/ English_(T)/ Manhattan_(T)	11: 16	5.47707/ 5.47707/ 5.47707/ 5.47707/ 5.47707/ 5.47707/ 5.47707/ 5.47707/ 3.89210/ 2.30714/ 2.15514		

occasion.txt	Mosque_(L)/ English_(T)/ Eid_(L)	3: 4	4.78572/ 4.78572/ 4.78572		
pet.txt	Roger_(T)/ Koko_(T)	2: 2	4.42279/ 4.42279		
population.txt	Terrorism_(I)/ terrain_(T)/ Morocco_(L)/ Egypt_(L)/ Asians_(I)/ Australian_(T)/ Saudi_(L)/ Arabia_(L)	8: 17	4.66114/ 4.66114/	4.66114/ 4.66114/	4.66114/ 4.07618/
religion.txt	Islamic_(L)	1: 4	5.83920		
sports.txt	Japanese_(I)/ Canadian_(T)/ snowboarding_(T)/ hockey_(T)/ racket_(T)/ Godo_(T)/ paragliding_(T)/ golf_(I) skiing_(I)/ scuba_(I)	10: 22	4.54399/ 3.95903/ 3.54399/ 2.54399	4.54399/ 3.54399/ 2.66952/	4.12895/ 3.54399/ 2.54399/
transportation.txt	Jackson_(T)	1: 2	5.69735		
vacation.txt	Zebra_(I)/ Vegas_(T)/ Greece_(I)/ China_(I)/ Australia_(T)/ Dubai_(L)	6: 8	4.73442/ 4.73442/	4.73442/ 4.73442/	4.73442/ 4.31939

**5. Discussion**

The process of sorting-in and throwing-out, as illustrated in Figure 1, was undertaken to show the *n*(cultural topic)+*collocates*(CTIs). A large number of *n+collocates*, irrelevant to the three types of cultures were dismissed due to being function words, e.g. the, in, out, to, by, of, etc. or being verbs, adjectives and adverbs (see Table 5). The relevant *n+collocates* were divided by percentage into the types of cultures. The results of the relevant and irrelevant *n+collocates*, in addition to the three types of cultures, are illustrated in Figure 2. The number of collocates associated with the selected cultural topics (the nodes) is 304. The distributions of all collocates associated with the 20 nodes between the three types of culture should be explained next in detail to conclude how these types are represented in Saudi EFL textbooks.

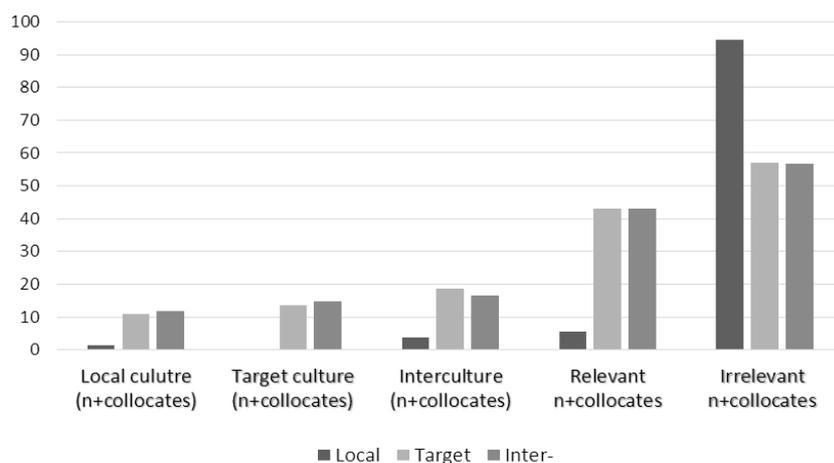


Figure 1. The relevant and irrelevant local, target and intercultures conveyed by the *n+collocates* in numbers

Table 5. Frequencies (size in numbers) of the totality in terms of all selected Saudi EFL textbooks

Frequency cases	Elementary	Intermediate	High
No. of selected cultural topics (n)	9	16	20
No. of collocates (CTIs)	57	127	119
No. of local culture items ( <i>n+collocates</i> )	87	76	70
No. of target culture items ( <i>n+collocates</i> )	22	95	88
No. of interculture items ( <i>n+collocates</i> )	228	131	99

No. of relevant <i>n+collocates</i>	337	302	257
No. of irrelevant <i>n+collocates</i>	338	400	5706
Ratios of (relevant: irrelevant) <i>n+collocates</i>	(0.997:0.003)	(0.755:0.245)	(0.045:0.955)

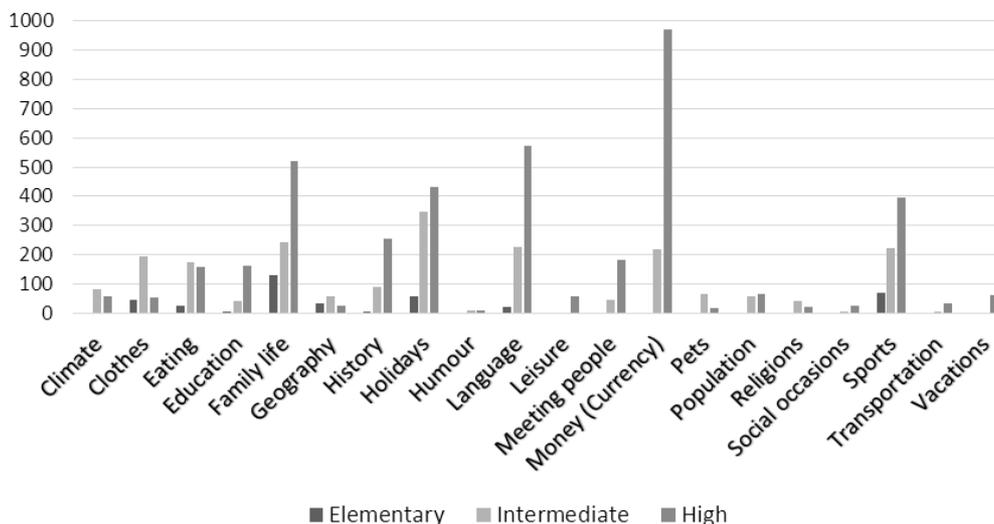


Figure 2. The total number of 20n+collocates (X-axis) in numbers (Y-axis)

The types of culture that are analysed from the Saudi EFL textbooks vary in terms of size. The number of relevant collocates (Table 5) that are associated with the 20 topics at the three school levels according to the three types of culture are as follows:

- 1) For the elementary school level: 30 collocates convey local cultures, 10 collocates convey target culture and 17 collocates refer to interculture. This makes up 57 collocates associated with only 9 cultural topics. However, the frequencies of each collocate change the effect size, as the total frequency, as seen in Table 5, is 337: (87 *n+collocates* for local culture, 22 *n+collocates* for target culture and 228 *n+collocates* for interculture).
- 2) For the intermediate school level: 50 collocates convey local cultures, 31 collocates convey target culture and 47 collocates refer to interculture. This makes up 127 collocates associated with only 16 cultural topics. However, the frequencies of each collocate change the effect size, as the total frequency, as depicted in Table 5, is 302: (76 *n+collocates* for local culture, 95 *n+collocates* for target culture and 131 *n+collocates* for interculture).
- 3) For the high school level: 33 collocates convey local cultures, 39 collocates convey target culture and 48 collocates refer to interculture. This makes up 119 collocates associated with the 20 cultural topics. However, the frequencies of each collocate change the effect size, as the total frequency, as seen in Table 5, is 257: (70 *n+collocates* for local culture, 88 *n+collocates* for target culture and 99 *n+collocates* for interculture).

The frequency of each category of culture for the whole data reflecting the three school levels are 233 frequently occurring *n+collocates* for local culture, 205 frequently occurring *n+collocates* for target culture and 458 frequently occurring *n+collocates* for interculture. However, such totalities when they are compared to the size of the intended textbooks in each school level show that local cultural items are greater in size than those of target cultural items, and the latter is greater in size than those of intercultural items. In other words, the EFL textbooks taught at the elementary level have more frequent *n+collocates* relevant to local and intercultural than the textbooks taught at the intermediate and high levels; and for the latter, the *n+collocates* relevant to the target cultural items are more frequent than those in the elementary school level. In general, the results, however, show that the three cultures are incorporated more into the first level and they decrease in the next two categories in a gradual and respective way, except the number of target culture items (*n+collocates*) for the elementary level. According to the resulting ratios for each school level (the last row of Table 5), the teaching of English at the three school levels, using more local cultural elements than target and intercultural elements seems unusual, as

the English culture is conveyed by either target or intercultural. This can be seen in the ratios of the relevant n+collocates to the irrelevant n+collocates that vary widely between the Saudi school levels.

## 6. Conclusion

The processing undertaken in this article sought to determine complete examples of English that convey 20 selected cultural topics (*n*) and their own cultural type detected by collocates (CTIs) in a 5-ngrams span. The analysis was based on processing whole texts of Saudi EFL textbooks. Function words, punctuations and symbols other than English letters were cleaned. In addition, verbs, adjectives and adverbs were not considered. This helped identify how the remaining content words (collocates) were associated with the 20 selected cultural topics/words (nodes). The collocates associated with either side of the node were retrieved and labelled as local (L), target (T) or inter-cultural (I) items. Overall, it was evident that local cultural items were fostered more than the target cultural ones, and the latter was fostered more than intercultural. It is odd to decrease the elements of the target culture by which English is originally conveyed. It seems that raising awareness of local cultures inserted into the English textbooks tends to make students in Saudi Arabia competent regarding how they express their own cultures via the international language: English. This is quite reasonable, but the situational and cultural competence and performance should shift the size of local cultural linguistic items to a minimum. The target culture and intercultural, and the cultural items that convey them, are more important for students as acquiring the English language aims to achieve good communicative competence with native English speakers and with non-native speakers of English via English as a lingua franca among multiple ethnic groups and cultures. It is highly recommended to reconsider the cultural competence of Saudi EFL textbooks in terms of a greater focus on intercultural than target, and more target than local.

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## Appendix A. EFL textbooks for elementary schools

	Categories	Grade	Size in pages	Basic statistics
Exercise book	Smart Class 1	4 <sup>th</sup> grade	124	
	Smart Class 2	4 <sup>th</sup> grade	123	- File size (overall):
	Smart Class 3	5 <sup>th</sup> grade	132	1,281,578
	Smart Class 4	5 <sup>th</sup> grade	132	- Tokens
	Smart Class 5	6 <sup>th</sup> grade	148	(running words)
	Smart Class 6	6 <sup>th</sup> grade	140	in text: 120,803
Student book	Get Ready 1	4 <sup>th</sup> grade	95	- Types (distinct words):
	Get Ready 2	4 <sup>th</sup> grade	94	4185
	Get Ready 3	5 <sup>th</sup> grade	95	- Type/token ratio (TTR):
	Get Ready 4	5 <sup>th</sup> grade	95	3.46
	Get Ready 5	6 <sup>th</sup> grade	94	- Standardised TTR:
	Get Ready 6	6 <sup>th</sup> grade	94	27.30
	We Can! 1	4 <sup>th</sup> grade	102	- STTR std. dev:
	We Can! 3	5 <sup>th</sup> grade	102	72.81
	We Can! 5	6 <sup>th</sup> grade	118	

## Appendix B. EFL textbooks for intermediate schools

	Categories	Grade	Size in pages	Basic statistics
Work/grammar	Full Blast 1	7 <sup>th</sup> grade	171	
	Full Blast 2	7 <sup>th</sup> grade	171	- File size (overall):
	Full Blast 3	8 <sup>th</sup> grade	180	4,921,842
	Full Blast 4	8 <sup>th</sup> grade	180	- Tokens
	Full Blast 5	9 <sup>th</sup> grade	188	(running words)
	Full Blast 6	9 <sup>th</sup> grade	172	in text: 453,960
Student book	Life Off 1	7 <sup>th</sup> grade	153	- Types (distinct words): 11,820
	Life Off 2	7 <sup>th</sup> grade	150	- Type/token ratio (TTR): 2.60
	Life Off 3	8 <sup>th</sup> grade	155	- Standardised TTR:
	Life Off 4	8 <sup>th</sup> grade	154	38.08
	Life Off 5	9 <sup>th</sup> grade	155	- STTR std. dev:
	Life Off 6	9 <sup>th</sup> grade	155	62.80

## Appendix C. EFL textbooks for high schools

Categories	Grade	Size in pages	Basic statistics
Traveller 1 SB	10 <sup>th</sup> grade	171	- File size (overall):
Traveller 1 WB	10 <sup>th</sup> grade	104	10,628,308
Traveller 2 SB	10 <sup>th</sup> grade	144	- Tokens
Traveller 2 WB	10 <sup>th</sup> grade	104	(running words)
Traveller 3 SB	11 <sup>th</sup> grade	144	in text: 957,974
Traveller 3 WB	11 <sup>th</sup> grade	88	- Types (distinct words):
Traveller 4 SB	11 <sup>th</sup> grade	152	25,959

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Traveller 4 WB	11 <sup>th</sup> grade	88	- Type/token ratio (TTR):
Traveller 5 SB	12 <sup>th</sup> grade	128	2.71
Traveller 5 WB	12 <sup>th</sup> grade	64	- Standardised TTR:
Traveller 6 SB	12 <sup>th</sup> grade	120	42.82
Traveller 6 WB	12 <sup>th</sup> grade	56	- STTR std. dev:
Flying High 1 SB	10 <sup>th</sup> grade	84	58.50
Flying High 1 WB	10 <sup>th</sup> grade	60	
Flying High 2 SB	10 <sup>th</sup> grade	84	
Flying High 2 WB	10 <sup>th</sup> grade	64	
Flying High 3 SB	11 <sup>th</sup> grade	84	
Flying High 3 WB	11 <sup>th</sup> grade	60	
Flying High 4 SB	11 <sup>th</sup> grade	84	
Flying High 4 WB	11 <sup>th</sup> grade	60	
Flying High 5 SB	12 <sup>th</sup> grade	84	
Flying High 5 WB	12 <sup>th</sup> grade	56	
Flying High 6 SB	12 <sup>th</sup> grade	84	
Flying High 6 WB	12 <sup>th</sup> grade	56	
Mega Goal 1 SB	10 <sup>th</sup> grade	108	
Mega Goal 1 WB	10 <sup>th</sup> grade	76	
Mega Goal 3 SB	11 <sup>th</sup> grade	108	
Mega Goal 3 WB	11 <sup>th</sup> grade	76	
Mega Goal 5 SB	12 <sup>th</sup> grade	108	
Mega Goal 5 WB	12 <sup>th</sup> grade	76	

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