

A REPORT ON
**THE EFFECT OF
ARABIC LANGUAGE
DIGLOSSIA ON
TEACHING AND
LEARNING**



QUEEN RANIA
FOUNDATION
مؤسسة الملكة رانيا

REPORT AUTHORS

Hanada Taha Thomure
Rana M. Tamim
Mark Griffiths

College of Education
Zayed University, United Arab Emirates

ACKNOWLEDGEMENTS

The authors of this review would like to acknowledge the efforts of Mrs. Rabab Saleh and Dr. Hounaida Abi Haidar in the coding process and in ensuring that all segments of the report are aligned and accurate. The review team would like to additionally thank Mrs. Haneen Al Abed and Mrs. Maysoon Masoud for continued support throughout the whole process.



| | |
|--------------|--|
| MENA | Middle East and North Africa |
| MSA | Modern Standard Arabic |
| OPT | Occupied Palestinian Territories |
| PIRLS | The Progress in International Reading Literacy Study |
| PISA | Programme for International Student Assessment |
| SpA | Spoken Arabic |
| SES | Socio-economic |
| PD | Professional development |
| DOA | Descriptive Opinion article |



| | |
|--|-----------|
| Acknowledgements | 2 |
| Acronyms | 3 |
| Diagrams, Graphs, Charts and Tables | 5 |
| Executive Summary | 6 |
| An Introduction Into Diglossia | 12 |
| Objectives of This Systematic Review | 14 |
| Methodology: What Did We Do? | 17 |
| Literature Search Strategy and Data Sources | 18 |
| Inclusion/exclusion Criteria and Review Procedure | 20 |
| Information/data Extraction Process | 21 |
| Findings From Research Studies Reviewed | 22 |
| What Are the Country Affiliations of Research Studies Reviewed? | 23 |
| What Are the Researchers' Specializations in the Studies Reviewed? | 24 |
| What Are the Paper Types of Research Studies Reviewed? | 25 |
| What Methodologies Are Used by the Studies Reviewed? | 26 |
| What Are the Main Concerns of Research Studies Reviewed? | 27 |
| What Are Some Findings of Research Studies Reviewed? | 31 |
| What Do the Research Studies Reviewed Propose as Recommendations? | 32 |
| What Are Some Concluding Arguments of Reviews, Position and Theoretical Papers Reviewed? | 33 |
| Discussion | 34 |
| Conclusion | 44 |
| References | 45 |
| Appendix A | 60 |
| Appendix B | 63 |



| | |
|--|-----------|
| Diagram 1: Gough's Simple View of Reading | 6 |
| Graph 1: PISA 2018 Reading, Mathematics and Science | 7 |
| Graph 2: PIRLS 2016 Reading Achievement | 8 |
| Graph 3: Studies in English 1975–2000 | 35 |
| Table 1: Sources Used | 18 |
| Table 2: Number of Studies Per Resource Used | 19 |
| Table 3: Researchers' Country Affiliation | 23 |
| Table 4: Aggregates of Researchers' Country Affiliation | 24 |
| Table 5: Authors Specialization | 24 |
| Table 6: Paper Type | 25 |
| Table 7: Paper Methodologies | 26 |
| Table 8: Main Concerns in Studies Reviewed | 27 |
| Table 9: Teaching Methods/Policy Concern | 28 |
| Table 10: Motivation and Attitudes Concern | 28 |
| Table 11: Low Academic Achievement Concern | 29 |
| Table 12: Home Literacy and Parental Involvement Concern | 30 |
| Table 13: Lack of Early Exposure Concern | 30 |
| Table 14: Findings from Quantitative, Qualitative and Mixed-Methods Studies | 31 |
| Table 15: Research Studies' Recommendations | 32 |
| Table 16: Findings from Reviews, Position and Theoretical Studies | 33 |



EXECUTIVE SUMMARY

The teaching and learning of Arabic language to native learners have faced many challenges in the past few decades manifesting in weak performance on all Arabic language international standardized tests that have been administered by many Arab countries in the past 15 years. There is a misconception that most, if not all of the challenges that students face today in learning Arabic language can be traced back to the diglossic nature of Arabic (or, the gap between the high form of Arabic used in reading and writing (Modern Standard Arabic), and everyday dialect). Diglossia alone cannot explain Arab students' low achievement without truly looking at other strong factors such as teaching and learning practices, home environment, exposure to Arabic language and print.

The implication of not being able to read in Arabic does not just affect students' ability to learn in the Arabic language classroom, but it spills into all other subjects taught in Arabic. As such, core subjects like mathematics, science, social sciences and other subjects are all affected by students' inability to read and comprehend at a grade-appropriate level. Gough's Simple View of Reading diagram 1 below illustrates links between ability to decode and language comprehension.

DIAGRAM 1:

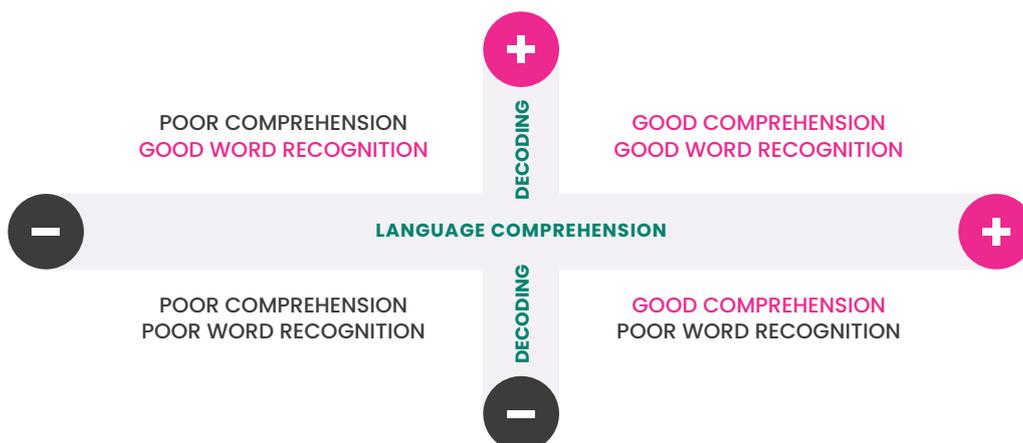


Image Source:

<https://www.qrf.org/en/what-we-do/research-and-publications/diglossia-research>



Graph 1 below shows student results in Reading, Mathematics and Science on the PISA (Programme for International Students Assessment) 2018 international test (World Bank, 2021). PISA a test taken by students who are 15 years old, shows that all Arab countries participating in it, scored below the world average in reading, math and science.

GRAPH 1:

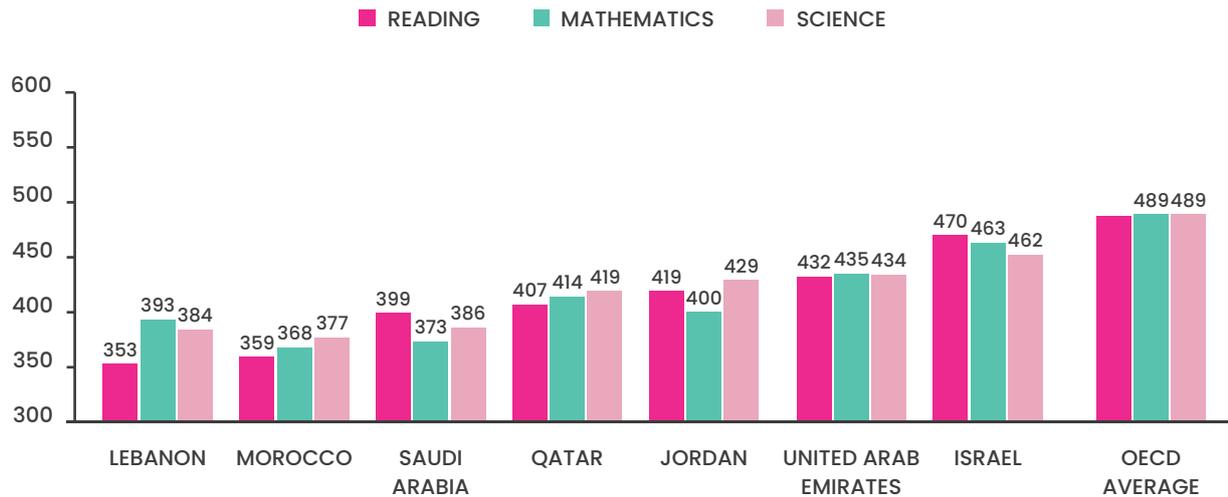


Image Source:

<https://openknowledge.worldbank.org/handle/10986/35917>

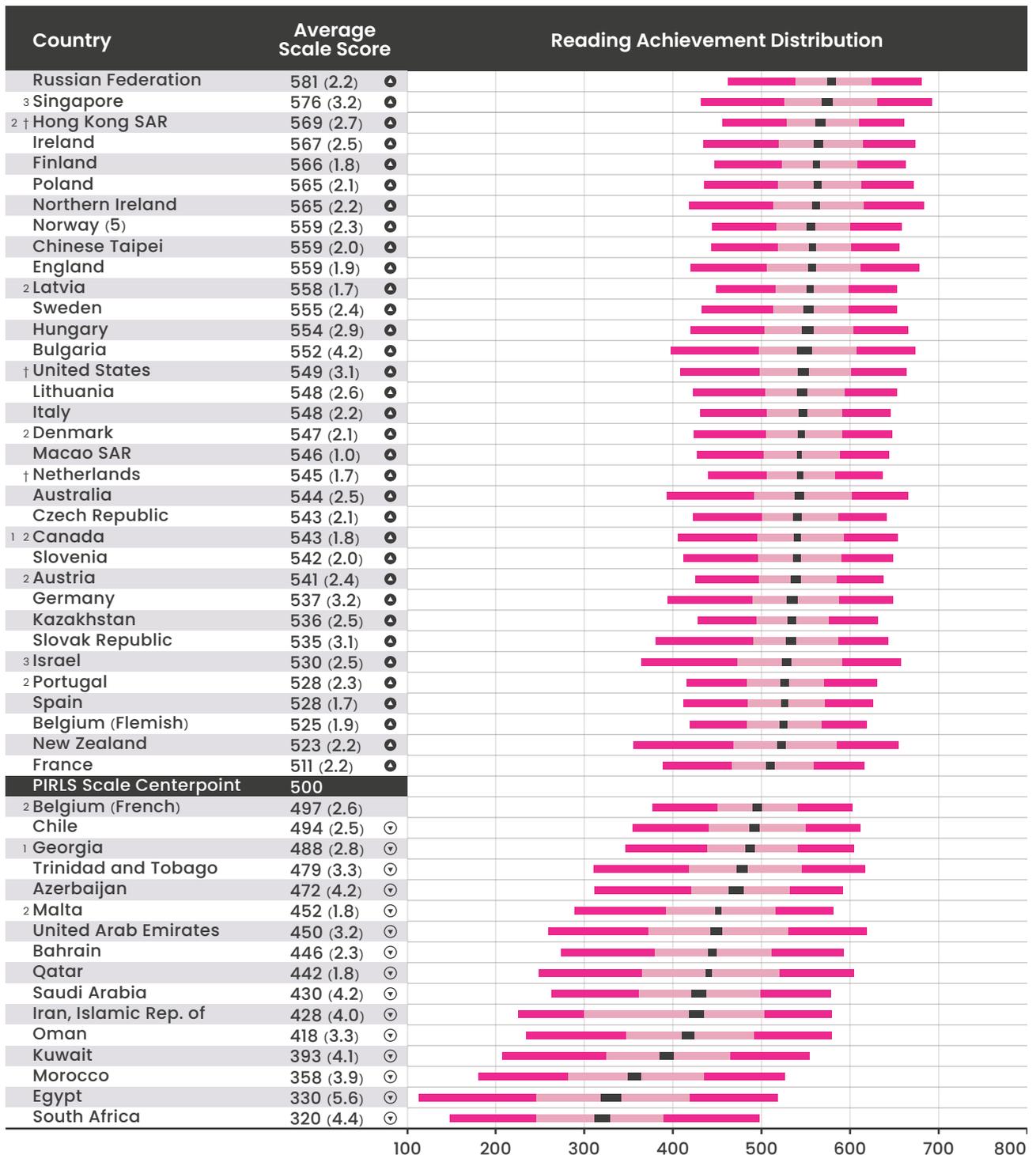
Graph 2 shows student results on the PIRLS reading test (2016) including results from eight Arab countries where Grade 4 students were tested on Arabic reading comprehension skills. The Progress in International Reading Literacy Study (PIRLS) is an international, standardized, literacy achievement test for native fourth graders in primary schools. Each country takes this literacy (reading comprehension) test in its own national language. The test's purpose is to measure students' ability to read in their native language and comprehend both literary and informational texts using the following processes: (1) being able to access straightforward information, (2) making explicit inferences, (3) explaining ideas presented in the text, and (4) analyzing the meanings, language, and other features presented in the text (Mullis, Martin, Foy, & Drucker, 2012). The PIRLS test was administered first in 2006 with the participation of 46 different educational systems from around the world. In 2011 another round of PIRLS test was administered with the participation of 45 different educational systems including five Arab countries (Morocco, United Arab Emirates, Saudi Arabia, Qatar, and Oman).

Results from the 2016 PIRLS test (shown in graph below) show that out of the 50 countries participating in the test, Egypt was ranked 49th, Morocco 48th, Kuwait 47th, Oman 46th, Saudi Arabia 44th, Qatar 43rd, Bahrain 42nd, and United Arab Emirates 41st all scoring well below the international scale average of 500. Countries with the highest achievement on the PIRLS



2016 test were Russian Federation, Singapore, Hong Kong, Ireland, Finland and Poland. High performing countries showed strength in the ability to interpret, integrate, and evaluate reading comprehension skills and strategies (Mullis et al., 2012). The PIRLS test administrators analyze five indicators that could affect students' reading performance. Those are (1) home environment, (2) teacher education, (3) school resources for reading, (4) school climate, and (5) classroom instruction.

GRAPH 2:



BENCHMARKING PARTICIPANTS



Note:

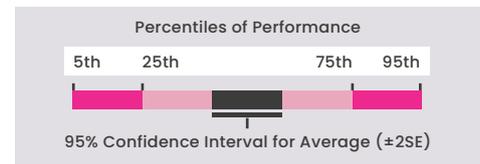
Five countries and one benchmarking entity participated in the PIRLS Literacy assessment. Egypt, Iran, Kuwait, Morocco, and South Africa as well as Denmark (3). Iran and Morocco also took part in the fourth grade assessment and their results are based on an average of both assessments.

The PIRLS achievement scale was established in 2001 based on the combined achievement distribution of all countries that participated in PIRLS 2001. To provide a point of reference for country comparisons, the scale centerpoint of 500 was located at the mean of the combined achievement distribution.

The units of the scales were chosen so that 100 scale score points correspond to the standard deviation of the distribution. See Appendix C.1 for target population coverage notes 1, 2, and 3. See Appendix C.4 for sampling guidelines and sampling participation notes †, ‡, and ≡. () Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.

Source:

<http://timssandpirls.bc.edu/pirls2016/international-results/pirls/student-achievement/pirls-achievement-results/>



- ⬆ Country average significantly higher than the centerpoint of the PIRLS scale
- ⬇ Country average significantly lower than the centerpoint of the PIRLS scale



IEA

TIMSS & PIRLS
International Study Center
Lynch School of Education
BOSTON COLLEGE

PIRLS
2016

4th Grade



Results from the body of available research remains inconsistent, filled with knowledge gaps and is inconclusive. The purpose of this research project is to examine the concept of Arabic diglossia and whether it affects Arabic language teaching and learning in schools, with a focus on Jordan. To achieve the intended objective, a systematic review on Arabic language diglossia as it relates to teaching and learning was conducted. The methodology of a systematic review offers a reliable and rigorous way to neutrally examine a body of research literature. For example, it explicitly counters the human tendency to identify research that accords with our existing beliefs, or to be less skeptical of research that fits our current views. To the best of our knowledge, this is the first effort to apply this methodology to the topic of Arabic diglossia.

Based on an extensive literature search, specific inclusion/exclusion criteria, and data extraction from identified documents, the review revealed some key findings, recommendations and take-aways. The main findings include:

1. Despite the possible implications of diglossia on teaching and learning, education research is under-represented in the literature.
2. The research is overwhelmingly descriptive - there is little testing of teaching and learning interventions.
3. There are key gaps in our understanding - most strikingly, there are no reliable measures of the actual linguistic distance between Modern Standard Arabic (MSA) and dialect.

Recommendations are divided into recommendations for researchers, teachers and parents, policy makers and funders, and are summarized below as follows:

1. RECOMMENDATIONS FOR RESEARCHERS:

- a. More research is needed in the area of diglossia's effect on teaching and learning, gaps between MSA and SpA (Spoken Arabic) and brain-based studies.
- b. More testing of teaching and learning interventions is needed.

2. RECOMMENDATIONS FOR TEACHERS AND PARENTS:

- a. Early exposure to MSA at home is crucial (via reading to children, and exposing them to high quality MSA cartoons, board games and music).
- b. Having teachers read children's literature to students on a daily basis in school.
- c. Integrating MSA into wholesome and fun activities in school.
- d. Ensuring that teachers are proficient in MSA and are able to use a simplified form with age-appropriate vocabulary with the children.
- e. Preparing and training teachers in best practices related to Arabic teaching and learning and the science of reading. It needs to be understood that the notion of diglossia is an inherent feature of Arabic language that should not be an excuse for poor teaching and learning practices.



3. RECOMMENDATIONS FOR EDUCATION POLICY MAKERS:

- a. Policies should underline that diglossia is an inherent feature of Arabic language that should not be an excuse for poor teaching and learning practices.
- b. Policies should be more focused on the quality of teaching and learning practices.
- c. Policies should embrace diglossia as an enriching feature in Arabic language rather than looking at MSA & SpA as competing and parallel concepts that do not meet.

4. RECOMMENDATIONS FOR FUNDERS OF RESEARCH:

- a. Need for research funding and incentives to be directed at interventions to improve the teaching and learning of Arabic.
- b. Need for better evidence of the effectiveness of teaching and learning practices, which may mean establishing new institutions and research centers similar, for example, to the What Works Centers in the UK, which includes the Education Endowment Foundation.
- c. Supporting young researchers in regional universities and encouraging them through research grants, for example, to focus on research on Arabic language teaching and learning.



AN INTRODUCTION INTO DIGLOSSIA

Charles Ferguson was the first to coin the term diglossia in 1959. Ferguson defined diglossia as a language environment in which, in addition to several primary dialects, there is a highly codified variety reserved for written literature, learned largely through formal education. That is the variety of choice for most written and formal spoken purposes, however, it is not used by the community for everyday conversation (Ferguson, 1959).

If one is to adopt a Fergusonian position to Diglossia, it can be said that every native speaker of Arabic acquires his/her own regional/local dialect (Jordanian, Lebanese, Moroccan, Egyptian, Emirati, etc.) which is considered of low prestige (L) within this diglossia (AlDannan, 2010; AlMousa, 2007; Ferguson, 1959; 1991; Makhoul, 2015; Obeid, 2010). Modern Standard Arabic (MSA) or the more prestigious, high (H) variety of the language is taught in all schools to all students from grade 1 across the Arab world. Dialects (SpA) and MSA are linguistically related despite some phonological and syntactic differences or distance between them (Saiegh-Haddad, 2005). The distance between the various dialects and MSA can decrease or increase depending on how much MSA in general children are exposed to before school starts (Hassunah-Arafat et al., 2017; Saiegh-Haddad et al., 2011; Schwartz et al., 2016).

All written communication is done in MSA, including newspapers, magazines, official letters, formal speeches and bills. (Holes, 2004). Although recently, and with the advent of the various chat tools including Facebook, Yahoo groups, Google Chat and Skype among others, many have started using dialects as a writing genre within these informal contexts.

Arab children mostly encounter MSA when they start school and might experience some difficulties when they make that first shift in school from the home dialect to MSA (Saiegh-Haddad, 2003; Saiegh-Haddad et al., 2011). Saiegh-Haddad (2003) and Saiegh-Haddad et al. (2011) studies' of five-year-old Arabic speakers revealed that children's difficulty in accessing MSA phonemes is linked to difficulties in the phonological encoding of MSA words. Results of these studies suggest that dialects interfere in children's achievement in reading because children do not come to MSA with enough oral language skills in MSA that would help them with fluency and automaticity.

It must be noted, though, that in a more recent article, Ferguson (1991) identified seven weaknesses in his original 1959 article on diglossia, including the concepts of language, variety, register and dialect variation, language distance, attitude, and power and solidarity factors in the elevated and low varieties (Ferguson, 1991). He pointed out that his descriptions of the situation and those of others "are static descriptions that fail to examine the phenomena of register switching and the negotiation of meanings by register variation within a social interaction" (p. 229). Accordingly, it might be imperative that ideas pertaining to Arabic diglossia and to painting the high (MSA) and low (SpA) varieties as two parallel lines that shall not meet are possibly a bit obsolete, misguided, inaccurate and in dire need of a new perspective. There is a need to create an evolving picture



of Arabic diglossia where there are intermediate stepping stones, or a sophisticated switching between High and Low, in order to convey nuance and meaning.

Several scholars have proposed different varieties of Arabic at intermediate positions, somewhere between the standard variety and a given colloquial, to account for variability. El-Hassan (1977) and Mitchell (1978a, 1978b) proposed Educated Spoken Arabic, Meiseles Oral Literary Arabic (1975, 1980), and Badawi (1973) and Blanc (1960) had both identified five levels of Arabic. While El-Hassan (1977) clearly recognized variability and viewed language as a “fuzzy phenomenon” that defies characterization as a binary choice and that it is more of a process that is punctuated with gradation and variation, the other scholars tended to compartmentalize the Arabic language into distinct varieties (Badawi, 1973). These intermediate varieties, although properties of which are manifested in the speech of Arabic native speakers under certain conditions, do not exist independently from the sociocultural factors that contributed to their actualization in the social context (El-Hassan, 1977). In other words, these varieties are fluid and highly responsive to personal, pedagogical, cultural, and socio-economic variables.

Sayahi (2015) argued that the different levels of proficiency in the varieties within a certain linguistic context influence and are influenced by cognitively by literacy development processes, emotionally via feelings of linguistic insecurity, and the overall perception people have of educational and socioeconomic efficacy. Bani-Khaled (2014) mentioned that diglossia for Arabic was still a pressing issue and the division over varieties has had a negative impact on acquiring general literacy in both Arabic and foreign languages such as English.

Gherwash’s (2017) interviews with Arab learners painted the Arab reader as disengaged and whose exposure to reading was mostly confined to what they read in the classroom. Gherwash attributed this situation partly to the diglossic nature of the Arabic language wherein users were usually more proficient in their spoken varieties of the language than in MSA, the language of written discourse. Gherwash’s paper argued that the lack of a “reading culture” in the Arab world was due to an amalgamation of cultural and linguistic factors, among which is diglossia. Diglossia, according to several researchers (Ayari, 1997; Gherwash, 2017; Mamouri, 1998; Saiegh-Haddad et al., 2011), negatively impacts students’ learning and delays the development of reading.

Bidaoui (2017), mentioned that while the discussion of the Arabic diglossic situation highlighted the existence of two separate codes (High and Low), Auer’s (2005) model acknowledged the significance of intermediate and overlapping forms. Ferguson’s main features of diglossia were important to generally understand Arabic sociolinguistics situation; nevertheless, they did not reflect the Arabic language reality and the degree of overlap between the two varieties in daily communication among native speakers of Arabic.

Despite all the discussion around the nature of diglossia and how it affects Arabic language learning, reading, comprehension and motivation to learn, so far, there is no clear and unified understanding about the impact of diglossia on teaching and learning that is fully based on evidence from the literature. As such, the current systematic review is highly warranted to provide evidence-based guidance for Arabic teaching and learning.



OBJECTIVES OF THIS **SYSTEMATIC REVIEW**

The overall purpose of this research project is to examine the effect of Arabic diglossia on Arabic language teaching and learning in order to understand the implications, underlying principles and gaps in the field. The research team intended to address the following set of questions:

- What is the nature and extent of Arabic diglossia and its distance from Modern Standard Arabic (MSA or Faseeha)?
- What learning challenges does diglossia create and their significance as barriers to achievement?
- What are some practical implications of diglossia on Arabic language teaching and learning?

To achieve the project's objectives within the timeframe and funding available, a systematic review of publicly available and best quality published works on Arabic diglossia was completed. Only peer-reviewed and high-quality works were included in order to ensure that this study would have the needed content for a meaningful systematic review. The team searched for Diglossia in grey literature as well to see if anything could be found outside the traditional sources and whether there were some unpublished documents on the topic or documents that were pending publication. Attention was given to extracting any accessible information that may provide a response to any of the above listed questions. While acknowledging the presence of literature addressing diglossia in Arabic language publications, due to the lack of availability of high quality, peer reviewed and internationally acceptable research available in the Arabic language, the decision to focus on research published in the English language was made.

This was based on:

- The maturity of the peer-reviewed body of literature in English when compared with Arabic peer-reviewed journals.
- The availability of search engines that enables the completion of reliable literature searches.



WHAT IS A SYSTEMATIC REVIEW?

It has long been known that a single research study cannot resolve an issue as it will be limited not only by the sample size but a number of other factors such as confounding variables and treatment fidelity. Hence the importance of synthesizing knowledge acquired by a number of research studies to better understand a phenomenon.

The oldest and most common method for capturing what a body of literature has to offer is the literature review. However, these narrative reviews are neither scientifically sound nor adequate in extracting information from a vast body of literature. Moreover, they are biased and subjective, rendering them highly unreliable (Snyder, 2019). As such, systematic review methodologies started garnering more attention as a stronger alternative to narrative literature reviews.

Systematic reviews are demarcated by their adherence to a set of scientific methods with the explicit objective of limiting systematic error and bias by identifying, appraising and synthesizing all relevant studies (of different designs) in order to answer a particular question.

Generally speaking, a systematic review depends on seven important steps, namely:

- 1** Clearly define the research question to be answered by the review
- 2** Decide on the types of studies to be identified in order to answer the question
- 3** Conduct a comprehensive literature search to locate studies of interest
- 4** Screen the search results and decide which ones meet the inclusion criteria and thus need more in-depth examination
- 5** Critically evaluate the included studies
- 6** Synthesize the findings from the studies
- 7** Disseminate the findings of the review



WHY A SYSTEMATIC REVIEW?

A systematic review goes beyond the usual literature review approach to ensure inclusivity of documents addressing the same topic, with the least bias and subjectivity. The systematic review helps frame the questions and inform the syntheses of available literature. In addition, it provides clarity in order to know what generalizations may be drawn from the existing empirical evidence, what gaps exist, and what may be fruitful avenues for further research.

The value of a systematic review includes being able to identify the consistencies and inconsistencies that exist within research evidence. For example, within the Arabic language learning literature, do different research findings indicate the same impact of diglossia (or the distance between MSA and dialect) [◀Link to Blog▶](#) on students' learning of Arabic? Identifying similarities and differences among the identified studies and manuscripts may also help us to better understand how to mobilize knowledge in order to impact policy and practice.

Another value of a systematic review is that it supports a comprehensive understanding of the issues surrounding, for instance, Arabic diglossia, including its impact, applications, and the pedagogical, and socio-political factors which moderate its influence. The combination of findings from multiple studies will strengthen and qualify conclusions from any single study.

Despite the powerful advantages of doing a systematic review, it is an underused methodology in education research in the Arab speaking world. This is why we think the systematic review into Arabic diglossia that we are carrying out with the support of the Queen Rania Foundation represents a methodological advantage within a priority research field.

In carrying out this work, we will target documents in various areas including early childhood learning; elementary and secondary learning; mother tongue and native learners of Arabic and postsecondary learning. The coding of the documents will be done by a team of researchers to ensure rigour and minimal bias. After that, we will examine the primary literature more closely by considering the types of evidence reported and whether it is generated by qualitative or quantitative studies. This will then inform the actual review which will identify current themes in the research and future directions for enquiry.

This is by necessity a long, diligent process. But we think the effort is worthwhile – after all, we would be doing students a dis-service if we did not make good use of the best available methodologies to advance the teaching and learning of Arabic literacy.



METHODOLOGY: **WHAT DID WE DO?**

For the purpose of this review, a systematic approach was employed throughout the different stages. This was of special importance to ensure reliability of the overall located literature and the subsequent selection of relevant documents. Furthermore, the systematic procedures followed were of significance pertaining to the extracted information and reported information. The following were the steps implemented:

1. Literature Search Strategies and Data Sources
2. Inclusion/Exclusion Criteria and Review Procedure
3. Information Extraction

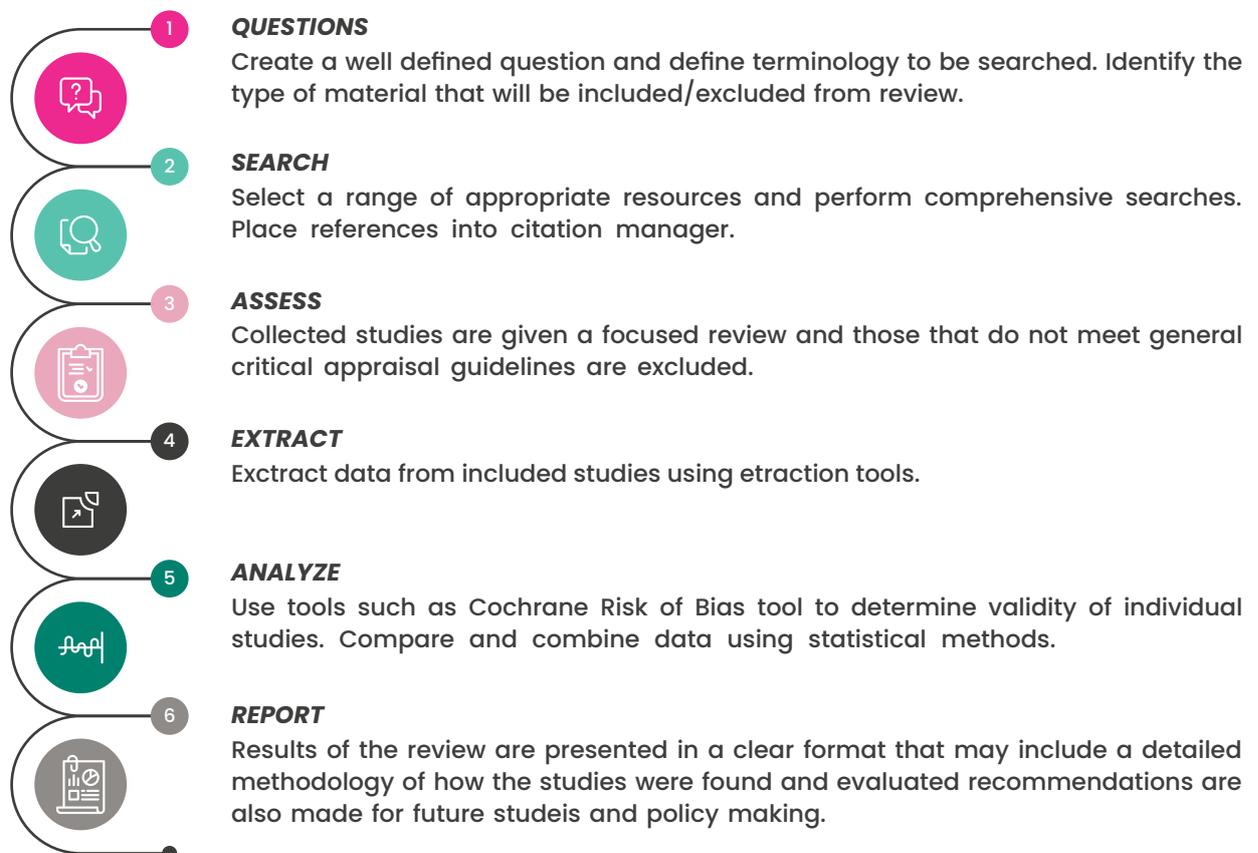


Image Source:

<http://blog.dyclibrary.net/wp-content/uploads/2018/09/systematic-process.gif>



LITERATURE SEARCH STRATEGY AND DATA SOURCES

Considering the focus of the current review, the literature search focused first on academic resources including articles, books and reports. As such, the literature search was a straightforward process. To locate those documents, an extensive search of several databases was done by the research team's data specialist (Table 1).

To begin with, eight different academic databases were searched for relevant material on Arabic language diglossia. This phase ensured that the search strategy did not miss out on articles that address diglossia regardless of how many articles were published addressing diglossia. Second, a series of Google Scholar searches were conducted, initially broadly but later paired with specific researcher names that are known to have published scholarly works on diglossia.

TABLE 1: SOURCES USED

| | |
|------------------------------------|--|
| 1 | Linguistics and Language Behavior Abstracts (LLBA) |
| 2 | ERIC |
| 3 | Academic Search Complete |
| 4 | Communication Abstracts |
| 5 | Education Source |
| 6 | ProQuest Dissertations |
| 7 | ProQuest Central |
| 8 | Web of Science |
| 9 | Google Scholar |
| TOTAL # of Sources Used = 9 | |



Considering the fact that this field of research is still in its infancy and not yet mature, a further effort was needed to reach as many works written on Arabic Diglossia as possible. This meant that after conducting the usual database searches and google scholar searches, the research team noted due to their expertise in the field, the absence of some key works by some prominent scholars. The team searched for Diglossia in grey literature to see if anything could be found outside the traditional sources and whether there were some unpublished documents on the topic or documents that were pending publication. The majority of studies collected were from the original database search conducted by the team's information specialist. The search process targeted all works published on Arabic diglossia in English as far as the 1970s to 2020 all over the world. In total, 735 leads were identified and added to the Endnote^[1] database.

TABLE 2: NUMBER OF STUDIES PER RESOURCE USED

| Source | Initial Results | Results After Duplicates |
|--|-----------------|--------------------------|
| Linguistics and Language Behavior Abstracts (LLBA) | 146 | 138 |
| ERIC | 86 | 56 |
| Academic Search Complete | 58 | 30 |
| Communication Abstracts | 40 | 15 |
| Education Source | 92 | 29 |
| ProQuest Dissertations | 85 | 63 |
| ProQuest Central | 82 | 23 |
| Web of Science | 92 | 39 |
| Google Scholar | 54 | 23 |
| Grey Literature | 31 | 31 |
| TOTAL | 766 | 447 |

[1] EndNote: A software tool for publishing and managing bibliographies, citations and references on the Windows and Macintosh desktop.



INCLUSION / EXCLUSION CRITERIA AND REVIEW PROCEDURE

To ensure reliability, a systematic process was used while reviewing the located records. The majority of documents addressing Arabic diglossia were peer-reviewed articles, books, book chapters, and reports. Inclusion criteria were one or more of the following:

- Effect of diglossia (MSA and SpA) on students' ability to learn Arabic
- Analysis of the impact of Arabic diglossia on education in general
- Analysis of the nature of diglossia in Arabic
- History of Arabic diglossia and how this concept might have changed over the years
- Understanding of diglossia
- Arabic diglossia in the Arabic language curriculum
- Articles/reports written in English only

While a systematic review in a mature body of literature would mainly focus on research type publications only due to the number of available articles (reaching the thousands in most cases) that would go beyond the capacity of any research team to complete, this was not the case in this context. Considering the scope of the current systematic review, and the relatively smaller size of the body of literature addressing the topic of diglossia, the study leaned more towards inclusion than exclusion. As such, if an abstract suggested that the study addressed diglossia AND/OR Arabic dialects AND/OR Language variety Vs. standard Arabic AND/OR colloquial language AND/OR vernacular Language AND/OR triglossia, in an Educational Environment – Related to teaching or learning the Arabic Language, formal and non-formal, then the article was included. Articles written in languages other than English and studies that did not discuss diglossia in relation to teaching and learning in some capacity were excluded.

Two researchers working independently reviewed the documents and rated them as either included or excluded, noted the reason for exclusion and discussed disagreements with the lead researchers until disagreements were resolved. Considering the focus of the current review, information from relevant documents only will be reported and discussed in the findings section.



INFORMATION / DATA EXTRACTION PROCESS

A codebook for data extraction was designed for this systematic review. The main areas of coded information included:

- Year of publication
- Author
- Paper type
- University affiliation
- Main Issue/concern
- Main recommendation
- Main objectives
- Grade level
- Type of students
- Number of participants
- Duration of intervention
- Type of school
- Language variety
- Geographic region of study
- Teaching strategy tested/used
- Linguistic skill tested
- Description of methodology
- Overall general findings
- Diglossia related arguments
- Comments of interest

It is important to note that considering the relatively small number of research articles, the majority being of pre-experimental and quasi-experimental design, and the absence of any randomized control trials that would be assessed as true experimental designs, it was not appropriate to include the research quality as a coded factor as realistically the majority would be assessed at a lower methodological quality from a research perspective.

To establish coding reliability, two researchers extracted data from a random sample of 20 documents and discussed the codes. Once assured that there were no major concerns in the use of the codebook, researchers started extracting data individually for the remaining documents. For the full codebook, please see Appendix A.



FINDINGS FROM **RESEARCH STUDIES REVIEWED**

The search led to the retrieval of 447 research articles and chapters. One hundred fifty-six articles were included in the final study and focused mostly on Arabic language diglossia and its relevance to teaching and learning. The following sections will be organized around the main codes the researchers worked on throughout this study. These include:

- Country affiliation
- Author specializations
- Paper Type
- Methodology
- Main Concerns
- Proposed Recommendations
- Findings from research studies
- Objectives from reviews, opinion articles
- Arguments from reviews, opinion articles

For each of the areas, the section will include specific findings of the current review about Arabic diglossia in general, and the effect on teaching and learning if relevant. The discussion section will offer reference to recommendations that could inform Arabic language teaching and learning.



WHAT ARE THE COUNTRY AFFILIATIONS OF RESEARCH STUDIES REVIEWED?

Results on researchers' country of affiliation (Table 3) whose studies were included in this review, revealed that the Occupied Palestinian Territories (OPT) had the highest percentage of researchers working on Arabic diglossia (34.6%), followed by the United States (31.4%) and the United Kingdom (6.4%). Individual Arab countries other than the OPT did not publish many articles on Arabic diglossia. However, when combined under one entry (Table 4), they formed 17.9% of all countries working on Arabic diglossia.

TABLE 3: RESEARCHERS' COUNTRY AFFILIATION

| Country | Frequency | Percent |
|--------------|------------|------------|
| OPT | 54 | 34.6 |
| USA | 49 | 31.4 |
| UK | 10 | 6.4 |
| Multiple | 7 | 4.5 |
| Lebanon | 6 | 3.8 |
| Jordan | 5 | 3.2 |
| Algeria | 4 | 2.6 |
| KSA | 4 | 2.6 |
| Austria | 3 | 1.9 |
| Italy | 2 | 1.3 |
| Morocco | 2 | 1.3 |
| Qatar | 2 | 1.3 |
| UAE | 2 | 1.3 |
| China | 1 | 0.6 |
| Egypt | 1 | 0.6 |
| Ghana | 1 | 0.6 |
| Kuwait | 1 | 0.6 |
| Oman | 1 | 0.6 |
| Serbia | 1 | 0.6 |
| Linguistics | 146 | 138 |
| Total | 156 | 100 |



TABLE 4: AGGREGATES OF RESEARCHERS' COUNTRY AFFILIATION

| Country Categorized | Frequency | Percent |
|---------------------|------------|------------|
| OPT | 54 | 34.6 |
| USA | 49 | 31.4 |
| Arab Countries | 28 | 17.9 |
| Europe | 16 | 10.3 |
| Multiple | 7 | 4.5 |
| Other | 2 | 1.3 |
| Total | 156 | 100 |

WHAT ARE THE RESEARCHERS' SPECIALIZATIONS IN THE STUDIES REVIEWED?

Coded information revealed that researchers whose studies were included in this review were specialized mostly in linguistics (56), followed by education (28), psychology and speech pathology (15) (Table 5). It is interesting to see that for an issue that supposedly touches deeply on teaching and learning that the percentage of educators conducting research was less than 30%, meaning that education research is under-represented in the literature.

TABLE 5: AUTHORS SPECIALIZATION

| Specialization | Numbers |
|--|---------|
| Linguistics | 56 |
| Education | 28 |
| Psychology/Sociology/Learning Disabilities/Speech Pathologists | 15 |
| Second Language studies | 10 |
| Philosophy | 5 |
| Anthropology/Cultural studies | 2 |
| Child and Family | 1 |
| Anthropology | 1 |
| Drama | 1 |
| History | 1 |
| Missing information | 36 |



WHAT ARE THE PAPER TYPES OF RESEARCH STUDIES REVIEWED?

Reviewing paper types of all the studies that were included in this review (Table 6) revealed that 50% were quantitative papers and 9.6% used a mix of quantitative and qualitative studies, while 16.7% were qualitative papers. A relatively high number of papers were position articles, editorials and theoretical articles (23.1%), (Table 6).

TABLE 6: PAPER TYPE

| Paper Type | Frequency | Percent |
|---|------------|------------|
| Quantitative | 78 | 50.0 |
| Qualitative | 26 | 16.7 |
| Mixed Methods | 15 | 9.6 |
| Review and Meta-Analysis | 1 | 0.6 |
| Theoretical articles, Opinion/Position papers, Editorials | 36 | 23.1 |
| Total | 156 | 100 |



WHAT METHODOLOGIES ARE USED BY THE STUDIES REVIEWED?

The methodology employed by the studies included in this review were articles that conducted a series of linguistic skills tests (23.7%), followed by studies that were mainly opinion articles, reports or argument articles, introducing or reviewing a framework, a model or some policy pertaining to diglossia (20.5%) (Table 7). This was followed by multiple methodologies such as surveys and a test or interviews (15.4%). Content analysis methodologies and small-scale reviews of literature were at 13.5%, and surveys at 10.3%. A smaller percentage of research reviewed used experimental/control methodologies (5.1%). It must be highlighted that although brain scans formed only 1.9% of the methodologies used in the research reviewed, this is quite promising given how young the field of diglossia research is.

TABLE 7: PAPER METHODOLOGIES

| Methodology | Frequency | Percent |
|-----------------------------------|------------|------------|
| Series of tests | 37 | 23.7 |
| Opinion article//Report//Argument | 32 | 20.5 |
| Multiple | 24 | 15.4 |
| Content analysis//review | 21 | 13.5 |
| Survey | 16 | 10.3 |
| Interviews and observations | 10 | 6.4 |
| Experimental control | 8 | 5.1 |
| One-time testing | 5 | 3.2 |
| Brain scan | 3 | 1.9 |
| Total | 156 | 100 |



WHAT ARE THE MAIN CONCERNS OF RESEARCH STUDIES REVIEWED?

The review looked at the main concerns that the included research studies articulated and the questions that they tried to answer (Table 8). Results depicted a major concern about low academic achievement including low literacy rates, below grade level reading, writing, vocabulary and writing skills in Arab countries (39.2%). Another key concern found was the linguistic distance or difference between MSA and SpA (19%). Those differences included phonological, morphological and lexical differences. Another major concern noted in the review was the teaching methods used in Arabic language classrooms (16.5%). Those were followed by concerns relating to the effects of socio-economic factors on early and frequent exposure to MSA and the status MSA holds in Arab societies (13.9%). Another concern centered around the varieties to be taught to non-native Arabic speakers who are interested in learning Arabic but get lost in what variety to learn (13.3%).

Other concerns included the lack of parental engagement at home and lack of early exposure to MSA, code switching between dialects and MSA, and the limited number of research published on diglossia and the contradictory findings in research that is published. It is interesting to note here an example of such contradictory conclusions in some of the studies reviewed. Where one study encouraged teachers to use SpA in stories telling to children (Jamjoom, 2014), another concluded that changing teachers' attitudes regarding the feasibility of reading stories to children in MSA instead of stories telling in SpA indicated a positive effect on children's comprehension and active use of MSA (Feitelson et al., 1993).

TABLE 8: MAIN CONCERNS IN STUDIES REVIEWED

| Concern | Frequency | Percent |
|--|-----------|---------|
| Low Academic Achievement | 62 | 39.2 |
| Diglossic Distance | 30 | 19 |
| Teaching methods/Policy | 26 | 16.5 |
| Complexity of MSA | 25 | 15.8 |
| MSA and Socio-economic status/ Prestige | 22 | 13.9 |
| Non-native Speakers | 21 | 13.3 |
| Limited Research | 16 | 10.1 |
| Lack of Early Exposure | 12 | 7.6 |
| Motivation and Attitudes towards Arabic | 8 | 5.1 |
| Limited home literacy and parental involvement | 5 | 3.2 |
| Code Switching | 5 | 3.2 |
| Contradictory Research | 3 | 1.9 |
| Others | 25 | 15.8 |



When analyzing the main regions (Arab world, Europe, USA and OPT) where diglossia studies were conducted (147 studies), the following was noticed (Tables 9–13). In the Arab countries & Europe, the teaching methods/policy seemed to be a higher concern than in other countries (Table 9).

TABLE 9: TEACHING METHODS/POLICY CONCERN

| Country Categorized | | Frequency | Percent |
|-----------------------------------|---------------|-----------|---------|
| OPT | Not mentioned | 50 | 92.6 |
| | Mentioned | 4 | 7.4 |
| | Total | 54 | 100 |
| USA | Not mentioned | 43 | 87.8 |
| | Mentioned | 6 | 12.2 |
| | Total | 49 | 100 |
| Europe | Not mentioned | 9 | 56.3 |
| | Mentioned | 7 | 43.8 |
| | Total | 16 | 100 |
| Arab Countries other than the OPT | Not mentioned | 21 | 75 |
| | Mentioned | 7 | 25 |
| | Total | 28 | 100 |

In the Arab countries, research dedicated to studying student motivation and attitudes toward Arabic language seemed to be a higher concern than the other countries (Table 10).

TABLE 10: MOTIVATION AND ATTITUDES CONCERN

| Country Categorized | | Frequency | Percent |
|-----------------------------------|---------------|-----------|---------|
| OPT | Not mentioned | 53 | 98.1 |
| | Mentioned | 1 | 1.9 |
| | Total | 54 | 100 |
| USA | Not mentioned | 48 | 98 |
| | Mentioned | 1 | 2 |
| | Total | 49 | 100 |
| Europe | Not mentioned | 16 | 100 |
| | Mentioned | 24 | 85.7 |
| | Total | 4 | 14.3 |
| Arab Countries other than the OPT | Not mentioned | 28 | 100 |
| | Mentioned | 7 | 25 |
| | Total | 28 | 100 |



For the Arab countries and OPT, the concern about low academic achievement seemed to be higher and more pressing than in the other countries (Table 11). This could possibly be due to the presence of native Arabic speakers in those countries whose language of instruction is Arabic. Low proficiency in Arabic, will, accordingly, influence achievement and performance in other subjects.

TABLE 11: LOW ACADEMIC ACHIEVEMENT CONCERN

| Country Categorized | | Frequency | Percent |
|-----------------------------------|---------------|-----------|------------|
| OPT | Not mentioned | 23 | 42.6 |
| | Mentioned | 31 | 57.4 |
| | Total | 54 | 100 |
| USA | Not mentioned | 38 | 77.6 |
| | Mentioned | 11 | 22.4 |
| | Total | 49 | 100 |
| Europe | Not mentioned | 13 | 81.3 |
| | Mentioned | 3 | 18.8 |
| | Total | 16 | 100 |
| Arab Countries other than the OPT | Not mentioned | 14 | 50 |
| | Mentioned | 14 | 50 |
| | Total | 28 | 100 |



For the Arab countries, limited home literacy and parental involvement seemed to be a higher concern than the other countries (Table 12).

TABLE 12: HOME LITERACY AND PARENTAL INVOLVEMENT CONCERN

| Country Categorized | | Frequency | Percent |
|---------------------|---------------|-----------|------------|
| OPT | Not mentioned | 53 | 98.1 |
| | Mentioned | 1 | 1.9 |
| | Total | 54 | 100 |
| USA | Not mentioned | 48 | 98 |
| | Mentioned | 1 | 2 |
| | Total | 49 | 100 |
| Europe | Not mentioned | 16 | 100 |
| | Mentioned | 26 | 92.9 |
| | Total | 2 | 7.1 |
| Arab Countries | Not mentioned | 28 | 100 |
| | Mentioned | 7 | 25 |
| | Total | 28 | 100 |

For lack of early exposure, Arab countries and OPT showed a similar level (Table 13).

TABLE 13: LACK OF EARLY EXPOSURE CONCERN

| Country Categorized | | Frequency | Percent |
|---------------------|---------------|-----------|------------|
| OPT | Not mentioned | 47 | 87 |
| | Mentioned | 7 | 13 |
| | Total | 54 | 100 |
| USA | Not mentioned | 48 | 98 |
| | Mentioned | 1 | 2 |
| | Total | 49 | 100 |
| Europe | Not mentioned | 15 | 93.8 |
| | Mentioned | 1 | 6.3 |
| | Total | 16 | 100 |
| Arab Countries | Not mentioned | 25 | 89.3 |
| | Mentioned | 3 | 10.7 |
| | Total | 28 | 100 |



WHAT ARE SOME FINDINGS OF RESEARCH STUDIES REVIEWED?

Findings from 119 quantitative, qualitative and mixed-method studies reviewed revealed the positive effects of incorporating teaching MSA using phonics (17.65%). The distance between MSA and various dialects was also a finding alongside the effect of socio-economic factors on learning MSA (14.29%). A finding that was of interest was that the difficulty students found in learning MSA decreased the more they were exposed to MSA and the higher their proficiency became. Thus, several studies suggested that difficulty of learning MSA decreased around Grade 4 (11.76%). This was closely linked to findings focused on various teaching and learning themes that concluded that emphasizing the importance of bridging the gap between MSA and dialects through activities that build diglossic-awareness early on (12.61%), early exposure to MSA was one way of bridging the gap and easing its learning (10.92%), engaging students in literacy (9.2%), and involving the parents and the community (5.88%). On the other hand, nearly three and a half percent of studies concluded that there is no effect for diglossia on student performance in school (Table 14) and that students did indeed come to school with some knowledge of MSA due to exposure to cartoons and other literacy related activities done at home. Those contradictory findings reveal the inconclusiveness of the current body of evidence available and puts in the forefront the high importance and need for more research around those issues.

TABLE 14: FINDINGS FROM QUANTITATIVE, QUALITATIVE AND MIXED-METHODS STUDIES

| Findings | Frequency | Percent |
|--|-----------|---------|
| Phonetic effects | 21 | 17.65 |
| Distance and Socio-economic status | 17 | 14.29 |
| Bridge Between MSA and SPA | 15 | 12.61 |
| MSA difficulty decreases with time | 14 | 11.761 |
| MSA Exposure Effects | 13 | 10.92 |
| Diglossia delays MSA | 12 | 10.08 |
| MSA Literacy Work | 11 | 9.24 |
| Non-native Methods | 10 | 8.40 |
| Parental and Community Involvement Effects | 7 | 5.88 |
| Diglossia has no effect on performance | 4 | 3.36 |
| Native Speakers come to School with some MSA | 4 | 3.36 |
| Diglossia Effect on 2nd Language learning | 1 | 0.84 |
| Other | 31 | 26.05 |



WHAT DO THE RESEARCH STUDIES REVIEWED PROPOSE AS RECOMMENDATIONS?

Research studies included in this review proposed several recommendations around the issue of Arabic diglossia. The main recommendation that was reiterated in many studies was the need for more research that will help the field better understand the implications of diglossia with a percentage of 50.42 (Table 15). This was followed by the recommendation of highlighting an awareness of the Arabic diglossic situation in schools (32.77%), improving teaching methods in Arabic language classrooms to make the learning of MSA more accessible and easier (24.37%), focusing on a phonetic approach in teaching in general including phonological, morphological and orthographic awareness, vocabulary and reading and having better children's literature in MSA (30.25% combined). Early exposure to MSA was another important recommendation made by 23.53% of studies reviewed and working on theories that can explain diglossia and policies that unify the understanding of diglossia with 18.49%. For non-native learners, recommendations emphasized the importance of learning MSA alongside one dialect (15.13%) (Table 15).

TABLE 15: RESEARCH STUDIES' RECOMMENDATIONS

| Proposed Recommendations of Research Studies | Frequency | Percent |
|--|-----------|---------|
| More research needed | 60 | 50.42 |
| Diglossic Awareness | 39 | 32.77 |
| Improve Teaching Methods | 29 | 24.37 |
| Early Exposure to MSA | 28 | 23.53 |
| Policy/Theory | 22 | 18.49 |
| Non-natives Need MSA and SPA | 18 | 15.13 |
| Promote Phonological Awareness/Vocab | 17 | 14.29 |
| Parental Engagement | 12 | 10.08 |
| Better Literature and Resources | 11 | 9.24 |
| Promote Orthography Awareness | 8 | 6.72 |
| Vowelization and Reading Mastery | 5 | 4.20 |
| Other | 20 | 16.81 |



WHAT ARE SOME CONCLUDING ARGUMENTS OF REVIEWS, POSITION AND THEORETICAL PAPERS REVIEWED?

Concluding arguments from 37 reviews, position and theoretical papers (Table 16) suggested that diglossia can delay learning MSA (13.5%) and argued that distance between MSA and dialects in addition to socio-economic factors (8.1%) can have negative effects on MSA learning as well. Similar to findings from research-based studies mentioned earlier, several reviews and position papers included in this study argued that MSA difficulty decreases with time (2.7%). They moreover added that literacy work that highlight phonics and diglossic awareness (13.5%) early literacy skills (2.7%) in addition to parental engagement (2.7%) help decrease the gap between SpA and MSA. Several studies emphasized the importance of paying attention to teaching methodologies used with non-native Arabic speakers (8.11%).

TABLE 16: FINDINGS FROM REVIEWS, POSITION AND THEORETICAL STUDIES

| Concluding Arguments of Reviews, Position and Theoretical Articles Only (37 documents) | Frequency | Percent |
|--|-----------|---------|
| Diglossia delays MSA | 5 | 13.51 |
| Phonetic effects and diglossic awareness | 5 | 13.51 |
| Distance and SES | 3 | 8.11 |
| Non-Native Methods | 3 | 8.11 |
| Bridge Between MSA and SPA | 2 | 5.41 |
| MSA difficulty decreases with time | 1 | 2.70 |
| MSA Literacy Work | 1 | 2.70 |
| Parental and Community Involvement Effects | 1 | 2.70 |
| Other | 16 | 29.73 |



DISCUSSION

The current review aimed to examine research published on Arabic language diglossia to help understand its effects on Arabic language teaching and learning, and help stakeholders find some answers to questions of language performance and factors that could be influencing it in the case of Arabic. While the task proved to be more challenging than expected due to the limited amount of research generally in the field, the overall findings of the review confirmed that while Arabic diglossia was a concern, there were other competing factors, including socio-economic factors, home and school literacy practices and access to resources that could be contributing to the unsatisfactory students' results, and requires further investigation. The following sections provide an overview of the findings for the questions this review addressed, in addition to pertinent implications for relevant stakeholders.

The current systematic review tried to answer three main questions:

- What is the nature and extent of Arabic diglossia and its distance from MSA (Faseeha)?
- What learning challenges does diglossia create and their significance as barriers to achievement?
- What are some practical implications of diglossia on Arabic language teaching and learning?

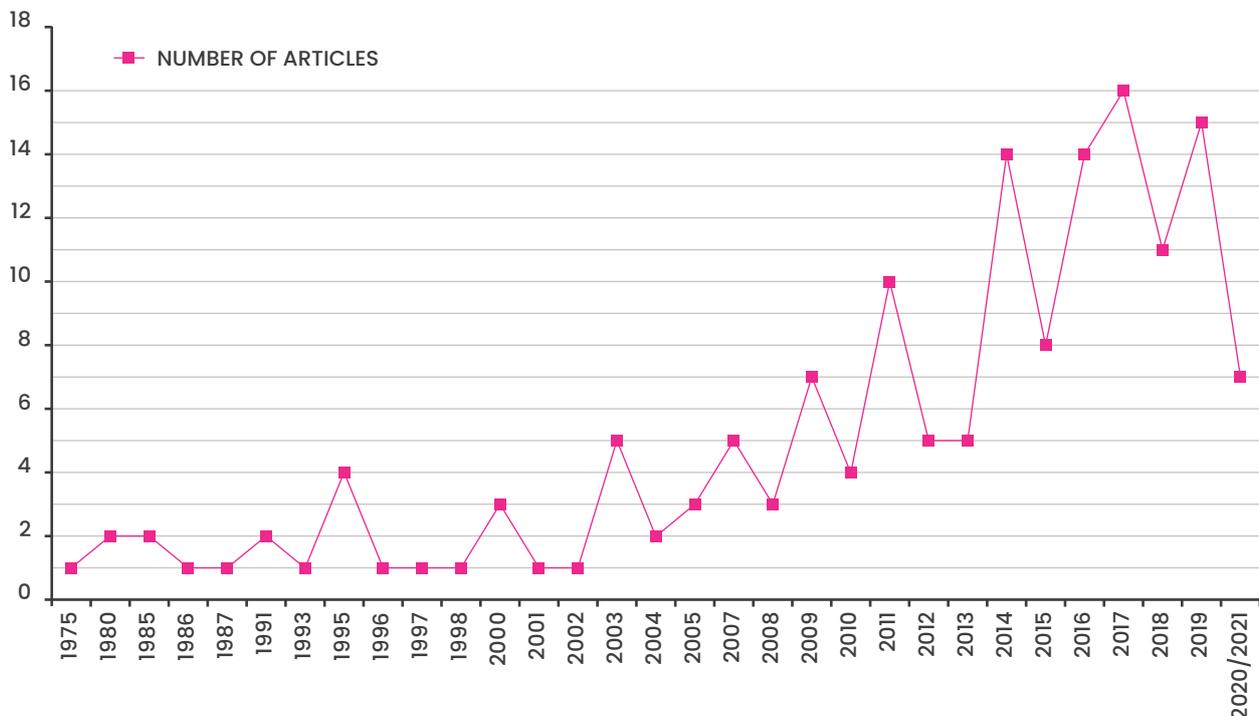
The following sections will attempt to answer these three questions based on findings from the studies included in this review.



THE NATURE OF ARABIC DIGLOSSIA AND DISTANCE BETWEEN MSA AND SpA

The interest in the concept of Arabic diglossia has undoubtedly increased over the past few decades as the number of publications on the topic in the English language suggests (from 20 studies found between the years 1975 to 2000 to 128 studies published between 2001–2020) (Graph 3). The sharp incline and increasing interest in this phenomenon since 2001 might have been spurred by the increasing interest in Arabic as a world language. It is important to do the same review exercise on studies that are published in the Arabic language and compare the level of interest in the topic within the Arab region.

GRAPH 3: STUDIES IN ENGLISH 1975–2000



Studies concerned with diglossia in teaching Arabic for non-native learners (21 studies) mostly discussed the reluctance of Arabic teachers to embrace Arabic dialects as potential content to be used and learned in the classroom. Although, this conclusion does not have much scientific grounding in terms of learning language, however, several of those studies reviewed concluded that it was imperative for non-native learners to study MSA in addition to one dialect of interest if they were to be truly connected to the Arabic language and the culture (Abdulrahman, 2009; Alabar, 2019; 2017; Alghmaiz, 2018; Al-Osaimi & Wedell, 2014; Amin & Badreddine, 2019; Aziz Soleiman, 2003; Cote, 2009; Dickins, 2000; Eisele, 2018; Fahmy, 2010; Humeidan, 2016; Lathrop, 2019; Moufarrej & Salameh, 2019; Palmer, 2007; 2008; 2009; Rabab'ah, 2005; Ben Romdhane, 2019; Ryding, 1991; Shiri, 2015; Stanfield & Kenyon, 1987; Wilmsen, 1995; Whitcomb, 2001). Moreover, one study indicated that there was a transfer of familiar dialect knowledge to unfamiliar ones in listening comprehension tasks (Trentman, 2011) which can be an indication of some level of connection and conversion between several Arabic dialects and MSA.

Although, no empirical study has measured the actual distance between MSA and the various dialects, however, for many studies included in this review, (qualitative and quantitative) concerned with Arabic as a first language (126 studies), the distance between SpA and MSA was a major concern. Those studies claimed that the distance between the two varieties could have been the cause of delayed MSA acquisition and possibly of low academic achievement (Alsobh et al., 2015; Eviatar & Ibrahim, 2016; Gallagher, 2011; Hamda & Amayreh, 2007; Khamis-Dakwar & Froud, 2012; Mitrovic, 2020; Saiegh-Haddad, 2003; Saiegh-Haddad et al., 2011; 2014; 2016; Zuzovsky, 2010b). The phonological distance between SpA and MSA might delay children's acquisition of literacy in MSA (Alrabaa, 1986; Saiegh-Haddad et al., 2011), and this is why early exposure to MSA becomes a necessity that cannot be overlooked at homes and in preschools (Al-Azraqi, 2014). A study in Kuwaiti primary schools (Nader Ali, 2014) found that children found it easier to read MSA texts and shared words between SpA and MSA than the local dialect words. Other studies (Albirini, 2019; Benmamoun & Albirini, 2018) argued that MSA was not a second language for native speakers of Arabic and that for native speakers their knowledge of SpA converges and aids their proficiency in MSA. In an intervention study done on 145 Palestinian kindergarteners of low SES in the OPT, the experimental group that received instruction in early literacy skills manifested a transition from a mixture of SpA and MSA to a preference of MSA over SpA. This is a key finding that speaks to the importance of teaching and learning, pedagogy in general and refining teachers' skills through proper pre-service preparation and in-service training. Abu-Rabia (2000), highlighted the notion that teachers and parents have it ingrained in their minds that using MSA with children is beyond their grasp and accordingly resort to telling children what's in a book using dialects rather than reading the book in MSA to them (Abu-Rabia, 2000; Horn, 2015). Abu-Rabia's quantitative study found that when teachers stick with MSA in the classroom even in lower primary and kindergarten, that children learn and improve their vocabulary.

Only one out of 157 studies attempted to look at the actual distance between Palestinian SpA and MSA, and its findings suggested that the percentage of similarity and conversion between the two could reach around 63% (Saiegh-Haddad & Spolsky, 2014), which suggests that the distance probably isn't as large as previously thought. This is a key finding that suggests that there is little research done in this field and accordingly, there is a big gap in our knowledge and therefore, most conclusions regarding the gap between MSA and SpA remain currently baseless and more on the guessing side of things. Results from only one study cannot be generalized or adopted without replication on a larger sample and without studying the distance between MSA and other regional Arabic dialects. Another study on linguistic distance between SpA and MSA (Taha, 2017) gave students memory and learning tasks that can assess students' verbal learning memory. Analysis indicated that Diglossia had a significant effect on the storage and short-term memory functions but not on long-term memory function (Taha, 2017). As such, the concern about the large distance between SpA and MSA and its causality of low academic achievement remains unsubstantiated and in need of more research.

Several papers (26%) addressed the importance of having Arabic language policies and Arabic language planning as precursors for improved teaching practices and improved student achievement (Al-Abed Al-Haq, 1985; Hamzaoui, 2019; Mahfoughi et al., 2011; Mahmoud, 1980; Sabbah, 2015). Those studies highlighted the absence of clearly stated language policies and language planning especially for education (Maamouri, 1998) and the competition Arabic is facing with the widespread of English language across the Arab world (Bani-Khaled, 2018; Al-Mahrooqi et al., 2016; Shocley & Nurcholis, 2016). One study called for language planning that



looks at simplifying the Arabic writing system and introducing children early to MSA (Ayari, 1996). Several others spoke to the prestigious status of MSA and the aura of respect and almost sanctity with which many of its speakers hold it (Elgibali, 1985) and concluded that language planning should take that into consideration and reinforce the use of MSA (Benkharafa, 2013; Ready, 2018; Zughoul, 1980). Another study (Faust, 2012) called for the need to have a framework that is fluid, dynamic and variationist rather than just a binary view of the Arabic language.

Diglossic awareness is a term that is relatively new and has been cited in many studies that were included in this review (Al Musawi, 2014; Asadi, 2019; Brosh & Olshtain, 1995; Brosh, 2015; Froud & Khamis-Dakwar, 2018; 2021; Khamis-Dakwar, 2005; 2019; Makhoul et al., 2020; Saeigh-Haddad, 2017). Having teachers work with children on diglossic awareness as early as first grade allows children to be able to identify appropriate settings or contexts for MSA and SpA varieties and helps them with support and scaffolding to recognize the similarities and differences between the varieties when tackling any new text with a vocabulary that can be familiar or new. This notion speaks to the interactivity between the two varieties (MSA and SpA) and views the Arabic language with all its varieties as one whole language consisting of MSA and many SpAs. As such, helping students understand that concept will help them have a better grasp on the two varieties they juggle all the time (Abbas et al., 2018; Feitelson et al., 1993; Kadry and Soliman, 2014; Khamis-Dakwar & Froud, 2019; Khamis-Dakwar, 2005; Makhoul & Coptishmael, 2020; Youssi, 1995). However, this notion of diglossic awareness might not be accepted by all teachers as suggested by a study conducted by Boussalhi (1991) where the sample of Moroccan teachers interviewed for the study considered the use of dialect in an educational context as wrong and unacceptable. In addition, the review found two opinion and one interview-based article calling for having children in early primary grade levels exclusively learn reading and writing in the different spoken dialects and after that switch to MSA. No perspective or provision was given on how the switch to MSA will happen and what the bridging tools between SpA and MSA would be (Khachan, 2009; Myhill, 2016; Shendy, 2019).

To summarize, this section framed the larger picture to the diglossic nature of the Arabic language. That picture plays a role in influencing the teaching and learning of the Arabic language including the lack of language policy and language planning, and the importance of embedding diglossic awareness in Arabic language curricula. The section also highlighted the lack of having a major body of research that measures the actual gaps or distance between MSA and SpA. It also highlighted non-native learners' need to learn Arabic in a holistic manner (MSA and SpA) rather than in a dichotomized and incomplete way.



DIGLOSSIA CHALLENGES TO LEARNING ARABIC

In this section, the researchers will highlight aspects of classroom practices and teaching and learning issues that have been analyzed in many of the studies included in this review. The major findings from the current systematic review reflect a deep concern for the challenges that Arabic diglossia can have on teaching and learning and on children's academic achievement in the MENA region. One study called for reforming Arabic language instruction in school systems especially in preschool in the MENA (Middle East and North Africa) region (Darwiche & Oweini, 2012) that would: 1) take into consideration the vocabulary lag students have in MSA due to diglossia, 2) place more emphasis on MSA, 3) creating high-interest resources, 4) encouraging teachers to use simple MSA with students, 5) train teachers on active learning strategies and 6) raise parents' awareness and encourage them to read to their children in MSA.

One interesting proposal that has been noticed in the more recent studies included in this review is the slight shift of the blame for low academic achievement in Arabic from the diglossic nature of Arabic to the socio-economic factors that can limit children's exposure to MSA, via having an environment at home that is rich in books, reading and print and thus delaying that exposure until after they go to school (Khamis-Dakwar & Froud, 2019; Saiegh-Haddad, 2017; Saiegh-Haddad et al., 2020; Sayahi, 2007; 2015). In the study by Saiegh-Haddad (2017), results suggested that a child's age and socio-economic status continued to affect their literacy achievements despite formal teaching and the highly transparent Arabic script. This interesting shift poses the question on whether or not diglossia may be too easy to use as an excuse and a convenient distraction from the urgent task of improving teaching and learning. Advancing Arabic literacy learning needs to be holistic and should include parents and supporting children from a young age in learning MSA. In that same vein, the systematic review and analysis of located documents revealed that parental engagement has been raised as an important factor in helping children with early literacy skills (Donita-Schmidt et al., 2004; Poyas & Bawardi, 2018). Having books at home and consistently reading to children early on gives them the tools needed to make the leap into MSA once they go to school. The lack of early exposure to MSA, be it via children's books that parents or caregivers read to them at home, or via cartoons, storytelling and other children's programs dubbed in MSA, has been repeatedly hailed as something that needs greater attention (Al-Bri et al., 2015; Ayari, 1996; Jamjoum, 2014; Leikin et al., 2014). Linked to that concept of parental engagement via reading to children in MSA before they enter school is a conclusion that some of the retrieved studies in this review emphasized, and that is that native Arabic speaking kids do come to school with some knowledge of MSA. This, however, must be a result of parental engagement and some exposure that the children have gotten via cartoons and children's books and other literacy resources available at home. Closely linked to home literacy is the idea raised by several studies about the lack of access to children's literature that is interesting and engaging at home and in the classroom. Several studies recommended paying attention to that and called for the need to produce interesting, affordable and high-quality children's literature that children and their families can easily access.

Several located documents concluded that improving teachers' skills (Al-Huri, 2013; Feitelson, et al., 1993; Tibi et al., 2013) and attitudes towards the use of MSA and using it to read aloud to students from children's literature books had a positive effect not only on the students but on engaging parents in reading to their children as well. Improving teaching methods in Arabic language was another theme that was highlighted in several of the studies reviewed here.



Including diglossic awareness in teacher preparation programs, teacher in-service training and in curricula, in addition to emphasizing the importance of embedding notions of phonemic (Asaad & Eviatar, 2014; Asadi & Abu-Rabiah, 2019; Damanhour, 2015; Makhoul, 2016; Taha, 2013), phonological, morphological (Asadi & Ibrahim, 2014; Asli-Badarneh & Leikin, 2019), orthographic awareness (Amer et al., 2011), direct and indirect vocabulary instruction, and focus on reading mastery and fluency were all features of the language that were repeatedly reported by the documents reviewed as key features to include in early years instruction. Several documents suggested that phonology contributed to students' decoding skills (Asadi et al., 2017a). Teaching morphological awareness including root and word-patterns would be relevant domains to stress with students in the classroom (Asadi et al., 2017b; Boudelaa & Wilson, 2013; Farghaly & Shaalan, 2009; Saiegh-Haddad & Taha, 2017; Schiff & Saiegh-Haddad, 2018). Moreover, their study suggested that adults' language processing is organized around those roots and word patterns. Other studies found that training students on using collaborative strategic reading skills led to increased students' self-confidence and MSA communication skills (Demachkie & Oweini, 2011). Teaching these skills independently of reading in MSA might not yield the needed progress according to studies (Rochdi, 2009; Zuzovsky, 2010a) that suggest that the pre-literacy skills can be developed in reading in and outside school.

Vowelization is linked to speed of reading or converting graphemes to phonemes (Saiegh-Haddad, 2005, 2004). Several studies looked at vowelization in both SpA and MSA texts and concluded that it played a key role in children's reading ability until they attain a sufficient level of proficiency in MSA, after which the students preferred to abandon vowelization and utilize instead the use of higher order thinking skills for rapid and correct word identification (Laks & Berman, 2016; Schiff & Saiegh-Haddad, 2017).



IMPLICATIONS, RECOMMENDATIONS AND FUTURE DIRECTIONS

Although 156 documents were located and analyzed in this review, very few of those were directly concerned with Arabic language teaching and learning. Reference was limited to a set of research and evidence-based practices that can be utilized to help children learn MSA, with no reference to a framework or developmental theory in that domain. This is regrettable given the importance of having such a theoretical framework to Arabic language teaching and learning that can help all stakeholders find their footing in relation to diglossia. Without the research and theoretical framework to back up claims made about Arabic diglossia and its impact on teaching and learning, any decisions made by ministries of education, decision makers, politicians and practitioners will merely be like shooting in the dark. Moreover, future research will need to look at the pedagogical imperative rather than solely focus on the features of Arabic language such as diglossia or orthography. Research into what children who excel in learning Arabic do and what effective teachers of Arabic do and understanding the role of families in developing MSA in the home will be the most important types of research to be funded if we are to be able to make any improvement in Arabic language teaching and learning.

However, those documents can provide researchers and practitioners with some key implications and recommendations that can be made towards a future direction in the teaching and learning of Arabic language and can be summarized in seven implications as follows:

1. EARLY EXPOSURE TO MSA:

Early exposure to MSA whether through watching cartoons and children's programs dubbed in MSA, listening to MSA songs, or through parents reading to children at home and teachers reading extensively to young learners at school. A word of caution here has to do with how much screen time young children are exposed to. It is advised that they do not get exposed to more than 30 minutes to one hour at the most per day. Those early practices could help build learners' MSA oral proficiency, lexicon and promote Arabic literacy as part of students' daily routines (Carroll et al., 2017; Oweini et al., 2020; Taha, 2019; Tibi & McLeod, 2016).

2. EARLY LITERACY SKILLS:

Many studies have continually referred to the importance of focusing Arabic teaching in preschool and lower primary school on certain early literacy skills, including diglossic awareness, phonemic awareness, phonological awareness, morphological awareness, vocabulary acquisition, comprehension and fluency. Mastering those skills early on will help students move from learning to read to reading to learn and will help them gain the needed proficiency in MSA that will allow them to easily access it. This means that early years' teachers and teachers of Arabic need to be well trained in pedagogies that can facilitate teaching those skills in addition to being trained in reading recovery for older students who have not reached the needed MSA proficiency yet.



3. MSA DIFFICULTY DECREASES WITH PROFICIENCY:

Many of the documents reviewed seem to acknowledge that the difficulty and complexity of MSA decreases with time (Abu-Rabia, 2000; Alwasel, 2017; Brosh & Attili, 2009; Farran et al., 2012; Gherwash, 2017; Hamzaoui, 2017; Hebbali, 2017; Khamis-Dakwar & Makhoul, 2016; Makhoul, 2017; Nevat et al., 2014). Moreover, proficiency or familiarity with the language contributed significantly to Arabic reading comprehension and to redeeming the distance between learners' SpA and MSA (Khamis-Dakwar, 2007, Saiegh-Haddad, 2003; 2011). This means that with the right teaching and learning practices, the extent of any issues that diglossia might create gets smaller. If the quality of Arabic teaching and learning improves, then diglossia might be a great hindrance to learning after all.

4. PARENT ENGAGEMENT:

Literacy begins at home from the oral language that parents use with young children, to the activities they engage in with them, be it reading children's literature to them, telling them stories, singing them nursery rhymes, reciting verses of Qur'an to them (where relevant), cooking together and using the names of utensils and various ingredients, pointing out objects around the children and naming them in Arabic and taking a real interest in their children's language development. Parental education has a pivotal role to play in their children's journey towards literacy.

5. INTERDEPENDENT RELATIONSHIP:

For native learners of Arabic who study a foreign language, one study (Trimasse, 2019) found that both SpA and MSA competed as sources of lexical transfer from which students derive the vocabulary they need when producing written work in a foreign language. Moreover, speakers' code-switch between SpA and MSA is mostly used for purposes of clarity and comprehension between speakers of different backgrounds (Abu-Melhim, 2014; Boussofara, 1999; 2003; Hamam, 2011). Additionally, students in several reviewed studies didn't view diglossia as a significant problem and reported positive attitudes towards both varieties of Arabic (Al-Kahtany, 1997; Hamzaoui, 2019; Hussein, 2017; Sabbah, 2015). This suggests that the relation between MSA and SpA for the native learner is that of interdependence rather than independence. This could be the basis of a theoretical developmental framework for Arabic diglossia within a teaching and learning context.

6. NON-NATIVE LEARNERS NEED BOTH VARIETIES:

Another implication that came out of the review points to the importance of having non-native learners of Arabic learn both MSA and a dialect in order to have a comprehensible knowledge of the language that will enable them to do what native learners can do linguistically within the Arab culture.

7. MORE RESEARCH IS NEEDED:

Sixty documents retrieved emphasized the need for more research in the area of Arabic diglossia. Several studies highlighted the need for further neurophysiological and behavioral studies to look at the model of mental representation in diglossia.



Recommendations are divided here into recommendations for researchers, teachers and parents, policy makers and funders as follows:

1. RECOMMENDATIONS FOR RESEARCHERS:

- a. More research is needed to fill the gaps in knowledge in the area of diglossia's effect on teaching and learning, distance between MSA and SpA and brain-based studies.
- b. Need for the design and rigorous testing of interventions that aim to generally improve Arabic language teaching and learning.
- c. Need an accepted theory or framework for how fluency in reading Arabic is acquired, which accommodates Arabic diglossia.
- d. The need for more rigour in research design and publishing.

2. RECOMMENDATIONS FOR TEACHERS AND PARENTS:

Despite the limitations of the existing evidence, the following recommendations are found in the literature. Although they lack an empirical evidence base, based on our professional judgement they are promising places to start –

- a. Maximise early exposure to MSA, through songs, cartoons and reading (Khamis-Dakwar, 2007, Saiegh-Haddad, 2003; 2011).
- b. Make the learning of MSA more accessible and easier by training teachers and curriculum designers in how to design learning activities that use high interest texts written in MSA that are accessible to children.
- c. Explicitly teach and invite student practice in phonological, morphological and orthographic awareness.
- d. Encourage teachers to read children's literature to students on a daily basis in school.
- e. Integrate MSA into wholesome and fun activities in school.
- f. Ensure that teachers are proficient in MSA and are able to use a simplified form with age-appropriate vocabulary with the children.
- g. Prepare and train teachers in best practices related to Arabic teaching and learning and the science of reading.
- h. Highlight the existence of diglossia, and support schools to explicitly address it in their teaching and learning approaches – for example, through teaching and learning activities that emphasize the bridge between MSA and dialect.



3. RECOMMENDATIONS FOR EDUCATION POLICY MAKERS:

- a. Highlight the existence of diglossia, and support schools to explicitly address it in their teaching and learning approaches - for example, through teaching and learning activities that emphasize the bridge between MSA and dialect.
- b. Promote and incentivize the creation of better children's literature in MSA.
- c. Be aware that diglossia is not the sole explanation for the literacy learning crisis. As studies in the review highlighted, teaching and learning approaches, socio-economic factors, parental and community engagement and access to resources all have contributory roles.
- d. Don't use diglossia as an excuse: focus on getting the pedagogy right, and any issues from diglossia will minimise as students make progress (Abu-Rabia, 2000; Alwasel, 2017; Brosh & Attili, 2009; Farran et al., 2012; Gherwash, 2017; Hamzaoui, 2017; Hebbali, 2017; Khamis-Dakwar & Makhoul, 2016; Makhoul, 2017; Nevat et al., 2014).
- e. Policies should underline the notion that diglossia is an inherent feature of Arabic language that should not be an excuse for poor teaching and learning practices.
- f. Policies should be more focused on the quality of teaching and learning practices.
- g. Policies should embrace diglossia as an enriching feature in Arabic language rather than looking at MSA & SpA as competing and parallel concepts that do not meet.

4. RECOMMENDATIONS FOR FUNDERS OF RESEARCH:

- a. Need for research funding and incentives (including money, high visibility and esteem for researchers) to be directed at interventions to improve teaching and learning of Arabic
- b. Need for better evidence of the effectiveness of teaching and learning practices, which may mean establishing new institutions and research centers similar for example to the What Works Centers in the UK, which includes the Education Endowment Foundation
- c. Supporting young researchers in regional universities and encouraging them through research grants, for example, to focus on research on Arabic language teaching and learning
- d. Ensure that research results are highlighted and communicated to policy makers and practitioners in ways and language that are accessible, clear and action-oriented.



CONCLUSION

The current review is the first of its kind to provide a snapshot of current thinking regarding Arabic diglossia and its effect on teaching and learning as reflected by literature published in English. Despite the possible implications of diglossia on teaching and learning, education research is under-represented in the literature that this review was able to access. Available information confirms the need for more research with a focus on teaching and learning. Accordingly, this means that there are key gaps in our understanding – most strikingly, there are no reliable measures of the actual linguistic distance between MSA and dialect. This review noted that there is not enough design and rigorous testing of interventions that aim to improve Arabic language teaching and learning. Added to that, the Arab region does not contribute enough to the quantity and quality of globally published research on this topic, which complicates the picture and leaves a large chunk of possible knowledge and answers to an important topic, namely, the teaching and learning of Arabic, untouched.

The importance of this review is that it, based on the results of the 156 studies it reviewed, offers a twist in the tale – which is the argument that the gap between High and Low forms is not hard-edged as Ferguson originally implied. This twist is strengthened by what many of the studies reviewed implied, making it the pedagogical belief that early and frequent oral exposure to MSA through listening to stories, songs, cartoons and other forms of oral exposure, are linked to gains in children’s development of MSA knowledge and reading comprehension (Abu-Rabia, 2000; Saiegh-Haddad, 2005; Saiegh-Haddad et al., 2011).

There is near agreement regarding some concerns, including low academic achievement in Arabic, lack of early exposure to MSA, lack of a theory that can explain the diglossic nature of Arabic, and lack of focus on teaching early literacy skills in schools.

The seven recommendations and future directions listed in the previous section are only a start and ought to be further verified as the review was limited by the nature of the documents that were retrieved and the shortage of research on Arabic language pedagogy in general. A pedagogical imperative to the Arabic diglossic phenomenon that extends beyond the mere linguistic phenomena and more into the ways in which diglossia can become a strength in Arabic language teaching and learning is needed, rather than the usual excuse for low performance and unacceptable student results.



REFERENCES

1. **Abbas, R., Vaknin-Nusbaum, V., Neuman, A., Mongillo, G., Feola, D., & Goldberg Kaplan, R. (2018).**
The use of modern standard and spoken Arabic in mathematics lessons: The case of a diglossic language. *Culture and Education*, 30(4), 730-765.
2. **Abdulrahman, M. A. (2009).**
Minority education and curriculum in the multilingual and multicultural society of the UAE. (Publication No.2923) [Doctoral dissertation, Durham University]. Durham E-Theses.
3. **Abou-Ghazaleh, A., Khateb, A., & Nevat, M. (2020).**
Language control in diglossic and bilingual contexts: An event-related fMRI study using picture naming tasks. *Brain Topography*, 33, 33-60.
4. **Abu-Melhim, A. R. (2014).**
Intra-lingual Code Alternation in Arabic: The Conversational Impact of Diglossia. *Theory and Practice in Language Studies*, 4(5), 891-902.
5. **Abu-Rabia, S. (2000).**
Effects of exposure to literary Arabic on reading comprehension in a diglossic situation. *Reading and Writing*, 13(1), 147-157.
6. **Alabar, R. (2017).**
An Assessment Framework of Communicative Arabic Proficiency CAP in the Light of Diglossia. (Publication No. 21985) [Doctoral dissertation, University of London]. Educational Studies.
7. **Alabar, R. (2019).**
An Assessment Norm of Communicative Arabic Proficiency. *Arab Journal of Applied Linguistics*, 4(2), 87-106.
8. **Al-Abed Al-Haq, F. M. (1985).**
A case study of language planning in Jordan. (Publication No. 8601084) [Doctoral dissertation, the University of Wisconsin-Madison]. UMI.
9. **Al-Azraqi, M. (2014).**
The Influence of Kindergarten in Overcoming Diglossia among Primary School Pupils in Saudi Arabi. *Arab World English Journal*, 5(1), 33-41.
10. **Albirini, A. (2019).**
Why Standard Arabic Is Not a Second Language for Native Speakers of Arabic. *Al-'Arabiyya: Journal of the American Association for Teachers of Arabic*, 52, 49-71.
11. **Al-Bri, Q. N., Bani-Yaseen, M. F. A., Al-Zu'bi, M. A., & Al-Hersh, M. S. (2015).**
Diglossia among Students: The Problem and Treatment. *Journal of Education and Practice*, 6(32), 14-20.



12. **AlDannan, A. (2010).**
The theory of teaching MSA through natural practice: Application, assessment and dissemination. AlBasha'er Publishing House.
13. **Alghmaiz, B. (2018).**
The Development of Refusals to Invitations by L2 Learners of Emirati Arabic: Language Proficiency and Length of Residence in the Target Community (Publication No. 10843902) [Doctoral dissertation, Indiana University]. PQDTOpen.
14. **Al-Huri, I. (2013).**
The Impact of Diglossia in Teaching/Learning the Arabic Course in Sana'a Secondary Schools. [Doctoral dissertation, University of Tlemecen]. SSRN Electronic Journal.
15. **Al-Kahtany, A. H. (1997).**
The 'Problem' of Diglossia in the Arab World: An Attitudinal Study of Modern Standard Arabic and the Arabic Dialects. *Al-'Arabiyya*, 30, 1-30.
16. **Al-Mahrooqi, R., Denman, C.J., & Sultana, T. (2016).**
Factors contributing to the survival of standard Arabic in the Arab world: an exploratory study. *Pertanika Journal of Social Sciences and Humanities*, 24(3), 1177-1191
17. **Al Musawi, H. (2014).**
The role of Phonology, Morphology and Dialect in Reading Arabic among Hearing and deaf Children. (Publication No. 12427) [Doctoral dissertation, University of Oxford]. ORA.
18. **Al-Osaimi, S., & Wedell, M. (2014).**
Beliefs about second language learning: the influence of learning context and learning purpose. *The Language Learning Context*, 42(1), 5-24.
19. **Alrabaa, S. (1986).**
Diglossia in the classroom: the Arabic case. *Anthropological Linguistics*, 28(1), 73-79.
20. **Al-Sobh, M. A., Abu-Melhim, A.R. H., & Bani-Hani, N. A. (2015).**
Diglossia as a Result of Language Variation in Arabic: Possible Solutions in Light of Language Planning. *Journal of Language Teaching and Research*, 6(2), 274-279.
21. **Alwasel, T. A. (2017).**
The influence of diglossia on learning standard Arabic. [Doctoral dissertation, King's College London]. King's Research Portal.
22. **Amer, F. H., Adaileh, B. A., & Rakhieh, B. A. (2011).**
Arabic diglossia: A phonological study. *A Phonological Study Argumentum*, 7, 19-36.
23. **Amin, T., & Badreddine, D. (2019).**
Teaching science in Arabic: Diglossia and discourse patterns in the elementary classroom. *International Journal of Science Education*. 42(14), 2290-2330.
<https://doi.org/10.1080/09500693.2019.1629039>



24. **Asaad, H., & Eviatar, Z. (2014).**
Learning to read in Arabic: the long and winding road. *Reading & Writing, 27*, 649–664
25. **Asadi, I. A. (2019).**
How the Characteristics of Phonemes and Syllabic Structures can Impact the Phonological Awareness of Kindergarten and First-Grade Arabic-Speaking Children. *Reading Psychology, 40*(8), 768–781.
26. **Asadi, I., & Abu-Rabia, S. (2019).**
The impact of the position of phonemes and lexical status on phonological awareness in the diglossic Arabic language. *Journal of Psycholinguistic Research, 48* (5), 1051–1062.
27. **Asadi, I. A., & Ibrahim, R. (2014).**
The Influence of Diglossia on Different Types of Phonological Abilities in Arabic. *Journal of Education and Learning, 3*(3), 45–55.
28. **Asadi, I. A., Khateb, A., Ibrahim, R., & Taha, H. (2017a).**
How do different cognitive and linguistic variables contribute to reading in Arabic? A cross-sectional study from first to sixth grade. *Reading and Writing, 30*, 1835–1867.
29. **Asadi, I. A., Khateb, A., & Shany, M. (2017b).**
How simple is reading in Arabic? A cross-sectional investigation of reading comprehension from first to sixth grade. *Journal of Research in Reading, 40*(S1), S1–S22.
30. **Asli-Badarneh, A., & Leikin, M. (2019).**
Morphological ability among monolingual and bilingual speakers in early childhood: The case of two Semitic languages. *International Journal of Bilingualism, 23*(5), 1087–1105.
<https://doi.org/10.1177/1367006918781079>
31. **Auer, P. (2005).**
Projection in Interaction and Projection in Grammar. *Text – Interdisciplinary Journal for the Study of Discourse, 25*(1), 7–36.
<https://doi.org/10.1515/text.2005.25.1.7>
32. **Ayari, A. S. (1996).**
Diglossia and Illiteracy in the Arab World. *Language, Culture and Curriculum, 9*(3), 243–253.
33. **Aziz Soliman, I. (2003).**
An exploratory study of the teaching of Arabic as a second language in Cairo: The International Language Institute–Sahafeyeen: A programme evaluation case Study. (Publication No.526089) [Doctoral dissertation, University of Edinburgh].
34. **Badawi, M.M. (1973).**
Colredige: critic of Shakespeare. Cambridge University Press.



35. **Bani-Khaled, T. A. A. (2018).**
Standard Arabic and Diglossia: A Problem for Language Education in the Arab World. *American International Journal of Contemporary Research*, 4(8), 180–189.
36. **Benkharafa, M. (2013).**
The Present Situation of the Arabic Language and the Arab World Commitment to Arabization. *Theory and Practice in Language Studies*, 3(2), 201–208.
37. **Benmamoun, E., & Albirini, A. (2018).**
Is learning a standard variety similar to learning a new language?: Evidence from Heritage Speakers of Arabic. *Studies in Second Language Acquisition*, 40(1), 31–61.
38. **Ben Romdhane, A. (2019).**
Portrait of a Tunisian Arabic Learner: Second Language Socialization in Study Abroad. (Publication No. 27668458) [Doctoral dissertation, University of Iowa]. ProQuest.
<https://doi.org/10.17077/etd.005167>
39. **Bidaoui, A. (2017).**
Revisiting the Arabic Diglossic Situation and Highlighting the Socio-Cultural Factors Shaping Language Use in Light of Auer's (2005) Model. *International Journal of Society, Culture & Language* 5 (2), 60–72.
40. **Blanc, H. (1960).**
Style variations in Arabic: A sample of interdialectal conversation. In C.A. Ferguson (Eds.), *Contributions to Arabic linguistics* (pp. 81–156). Cambridge, MA: Harvard University Press.
41. **Boudelaa, S., & Marslen-Wilson, W. D. (2013).**
Morphological structure in the Arabic mental lexicon: *Parallels between standard and dialectal Arabic*. *Language and Cognitive Processes*, 28(10), 1453–1473.
42. **Boussalhi, A. (1991).**
The Sociolinguistics of learning: Attitudinal patterns and implications (a case study of Moroccan diglossia). (Publication No.10984114) [Doctoral dissertation, University of Glasgow]. ProQuest.
43. **Boussofara-Omar, N. (1999).**
Arabic Diglossic Switching in Tunisia: An Application of Myers-Scotton's MLF Model. (Publication No. 45105418) [Doctoral dissertation, University of Texas at Austin]. ProQuest.
44. **Boussofara-Omar, N. (2003).**
Revisiting Arabic Diglossic Switching in Light of the MLF Model and Its Sub-Models: The 4-M Model and the Abstract Level Model. *Bilingualism: Language and Cognition*, 6(1), 33–46.
45. **Brosch, H. (2015).**
Arab students' perceptions of diglossia. *Al-'Arabiyya*, 48, 23–41.



46. **Brosh, H., & Attili, L. (2009).**
Ramifications of diglossia on how native Arabic-speaking students in OPT write. *Journal of Applied Linguistics*, 6, 165–190.
47. **Brosh, H., & Olshtain, E. (1995).**
Language Skills and the Curriculum of a Diglossic Language. *Foreign Language Annals*, 28(2), 247–260.
48. **Carroll, K. S., Al Kahwaji, B., & Litz, D. (2017).**
Triglossia and promoting Arabic literacy in the United Arab Emirates. *Language, Culture and Curriculum*, 30(3), 317–332.
49. **Cote, R. (2009).**
Choosing One Dialect for the Arabic Speaking World: A Status Planning Dilemma. *Journal of Second Language Acquisition and Teaching*, 16, 75–97.
50. **Dakwar Khamis, R., Ahmar, M., Farah., R., & Froud, K. (2018).**
Diglossic aphasia and the adaptation of the Bilingual Aphasia Test to Palestinian Arabic and Modern Standard Arabic. *Journal of Neurolinguistics*, 47, 131–144.
51. **Damanhour, M. (2015).**
The effect of early and heavy exposure to a second language on the recognition of certain Arabic phonemes: A case study. *ARECLS*, 12, 138–157.
52. **Darwiche Fedda, O., & Oweini, A. (2012).**
The effect of diglossia on Arabic vocabulary development in Lebanese students. *Educational Research and Reviews*, 7(16), 351–361.
53. **Demachkie, M. O., & Oweini, A. (2011).**
Using the collaborative strategic reading strategy to improve seventh graders' reading comprehension in Arabic: A pilot study. *International Journal of Pedagogies and Learning*, 6(3), 219–231.
54. **Dickins, J. (2000).**
The teaching of Arabic. In M. Byram & A. Hu. (Eds.), *Encyclopedia of Language Teaching & Learning* (pp. 38–41). Routledge.
55. **Donita-Schmidt, S., Inbar, O., & Shohamy, E. (2004).**
The effects of teaching spoken Arabic on students' attitudes and motivation in OPT. *The Modern Language Journal*, 88, 217–228.
56. **Eisele, J. (2018).**
One path or multiple paths: Munther Younes on the integrated approach to Arabic instruction. *Al-'Arabiyya*, 51, 1–23.
57. **El-Dash, L., & Tucker, G. R. (1975).**
Subjective Reactions to various speech styles in Egypt. *International Journal of the Sociology of Language*, 6, 33–54.



58. **Elgibali, A. (1985).**
Towards a sociolinguistic analysis of language variation in Arabic: Cairene and Kuwaiti. (Publication No. 8617152) [Doctoral dissertation]. University Microfilms International.
59. **Eviatar, Z., & Ibrahim, R. (2016).**
Why is it Hard to Read Arabic? In E. Saiegh-Haddad & R. Joshi (Eds.), *Handbook of Arabic Literacy* (pp. 77–96). Springer.
60. **Eviatar, Z., Ibrahim, R., Karelitz, T. M., & Ben Simon, A. (2019).**
Speed of reading texts in Arabic and Hebrew. *Reading and Writing, 32*(2), 1–23.
61. **Fahmy, M. (2010).**
Evaluating Arabic by the Interagency Language Roundtable Scale. *Dialog on Language Instruction, 21*(1&2), 57–66.
62. **Farghaly, A., & Shaalan, K. (2009).**
Arabic natural language processing: Challenges and solutions. *ACM transactions on Asian language information processing 8*(4), 1–22.
<https://doi.org/10.1145/1644879.1644881>
63. **Farran, L. K., Bingham, G. E., & Matthews, M. W. (2012).**
The relationship between language and reading in bilingual English–Arabic children. *Reading and Writing, 15*, 2153–2181.
64. **Faust, C. M. (2012).**
Style shifting in Egyptian and Tunisian Arabic: A sociolinguistic study of media Arabic. (Publication No. 195725) [Masters dissertation, The University of Utah]. J. Willard Marriott Digital Library.
65. **Feitelson, D., Goldstein, Z., Iraqi, J., & Share, D. L. (1993).**
Effects of Listening to Story Reading on Aspects of Literacy Acquisition in a Diglossic Situation. *Reading Research Quarterly, 28*(1), 70–79.
66. **Ferguson, C. A. (1959).**
Diglossia. *Word, 15*(2), 325–340.
<https://doi.org/10.1080/00437956.1959.11659702>
67. **Froud, K., & Khamis-Dakwar, R. (2018).**
Neurophysiological investigations in studies of Arabic linguistics: The case of Arabic diglossia. In R. Khamis Dakwar, & K. Froud (Eds.), *Perspectives on Arabic Linguistics XXVI: Papers from the annual symposium on Arabic Linguistics* (pp. 285–301). John Benjamins Publishing Company.
68. **Froud, K., & Khamis-Dakwar, R. (2021).**
The study of Arabic language acquisition: A critical review. In K. Ryding & D. Wilmsen (Eds.), *The Cambridge Handbook of Arabic Linguistics.* Cambridge University Press.



69. **Gallagher, K. (2011).** Bilingual education in the UAE: Factors, variables and critical questions. *Education, Business and Society: Contemporary Middle Eastern Issues*, 4(1), 62-79.
70. **Gherwash, G. (2017).** Diglossia and Literacy: The Case of the Arab Reader. *Arab Journal of Applied Linguistics*, 3(3), 56-85.
71. **Gallego, N. A. (2010).** The impact of Arabic diglossia among the Muslims, Jews and Christians of al-Andalus. In F. C. Aseguinolaza, A. A. Gonzalez, & A. Dominguez (Eds.), *A Comparative history of Literatures in the Iberian Peninsula, Volume I* (pp. 351-365). John Benjamins Publishing Company.
72. **Hamam, M. (2011).** Text Vs. Comment: Some Examples of The Rhetorical Value of The Diglossic Code-Switching In Arabic-A Gumperzian Approach. *Pragmatics*, 21(1), 41-67.
73. **Hamda, J.M., & Amayreh, M. M. (2007).** Consonant profile of Arabic-speaking school-age children in Jordan. *Folia Phoniatrica et Logopaedica*, 59, 55-64.
74. **Hamzaoui, C. (2017).** *From home to school: a linguistic study of Arabic diglossia and its effects on formal instruction in the Algerian education system.* (Publication No. 11783) [Doctoral dissertation, University of Abou Bekr Belkaid-Tlemcen]. Depot Institutionnel de L'Universite UBAT.
75. **Hamzaoui, C. (2019).** Attitudes towards Diglossia in an Algerian Educational Context: An Investigation of the Primary Level in Tlemcen. *Arab World English Journal*, 10(1), 314-323.
76. **Hassunah Arafat, S., Korat, O., Aram, D., & Saiegh-Haddad, E. (2017).** Continuity in literacy achievements from kindergarten to first grade: a longitudinal study of Arabic-speaking Children. *Reading and Writing*, 30, 989-1007.
77. **Hebbali, F. Z. (2017).** *Quran Schools as an Alternative Remedy for The Negative Repercussions of Arabic Diglossia* (Publication No. 11261) [Doctoral dissertation, University of Tlemcen]. Depot Institutionnel de L'Universite UBAT.
78. **Hillman, S. K. (2011).** "Ma Sha Allah!" *Creating Community Through Humor Practices in a diverse Arabic language flagship classroom.* (Publication No. 978112485081) [Doctoral dissertation, Michigan State University). MSU Libraries Digital Repository.



79. **Horn, C. (2015).**
Diglossia in the Arab World: Educational Implications and Future Perspectives. *Open Journal of Modern Linguistics*, 5, 100–104.
<https://doi.org/10.4236/ojml.2015.51009>
80. **Humeidan, B. (2016).**
Desired and Observed Language Use in Arabic Classes and Its Relationship to the Real World: Students' Perspectives. (Publication No.10149241) [Doctoral dissertation, University of Wisconsin-Madison]. ProQuest.
81. **Hussein, A. A. (2017).**
Students' Attitude Towards Arabic Language Varieties: The Case of the Fushā Arabic. *Practice and Theory in Systems of Education*, 12(2), 86–99.
82. **Ibrahim, R. (2011).**
Literacy problems in Arabic: Sensitivity to diglossia in tasks involving working memory. *Journal of Neurolinguistics*, 24(5), 571–582.
83. **Jamjoom, S. M. K. (2014).**
Story Reading and Literary Arabic Vocabulary Acquisition in Kindergarten. (Publication No. 3626739) [Doctoral dissertation]. UMI.
84. **Kadry and Soliman, R. (2014).**
Arabic Cross-dialectal Conversations with Implications for the Teaching of Arabic as a Second Language. (Publication No. 651233) [Doctoral dissertation, University of Leeds]. White Rose E-theses Online.
85. **Khachan, V. A. (2009).**
Diglossic needs of illiterate adult women in Egypt: A needs assessment. *International Journal of Lifelong Education*, 28(5), 649–660.
86. **Khamis-Dakwar, R. (2005).**
Children's Attitudes Towards the Diglossic Situation in Arabic and its Impact on Learning? In Z. Zakharia & T. Arnstein (Eds.), *Language, Communities, and Education* (pp. 75–86). Society for International Education Teachers College.
87. **Khamis-Dakwar, R. (2007).**
The development of diglossic morphosyntax in Palestinian Arabic-speaking children. (Publication No. 3266613) [Doctoral dissertation, Columbia University]. Proquest.
88. **Khamis-Dakwar, R. (2019).**
Critical review of cultural and linguistic guidelines in serving Arab-Americans. In E. Ijalba, P. Velasco, & C. J. Crowley (Eds.), *Language, Culture, and Education: Challenges of Diversity in the United States* (pp. 207–225). Cambridge University Press.



89. **Khamis-Dakwar, R. (2020).** Clinical linguistic research in the study of Arabic diglossia. In E. Van Gelderen (Eds.), *Perspectives on Arabic Linguistics XXXI: Papers selected from the Annual Symposium on Arabic Linguistics* (pp. 155-172). John Benjamins Publishing Company.
90. **Khamis-Dakwar, R., & Froud, K. (2007).** Lexical processing in two language varieties an event-related brain potential study of Arabic native speakers. In M. A. Mughazy (Eds.), *Perspectives on Arabic linguistics* (pp. 153-168). Western Michigan University.
91. **Khamis-Dakwar, R., & Froud, K. (2012).** Aphasia, language and culture: Arabs in the US. In M. R. Gitterman, M. Gorāl, & L. K. Obler (Eds.), *Aspects of Multilingual Aphasia* (pp. 273- 291). Multilingual Matters.
92. **Khamis-Dakwar, R. & Froud, K. (2014).** Neurocognitive modeling of the two language varieties in Arabic diglossia. In R. Khamis-Dakwar & K. Froud (Eds.), *Perspectives on Arabic linguistics XXXI* (pp. 285-301). John Benjamins Publishing Company.
93. **Khamis-Dakwar, R., & Froud, K. (2019).** Diglossia and language development. In E. Al-Wer, & U. Horesh (Eds.), *The Routledge Handbook of Arabic Sociolinguistics* (pp. 249-262). Routledge.
94. **Khamis-Dakwar, R., Froud, K., & Gordon, P. (2012).** Acquiring diglossia: Mutual influences of formal and colloquial Arabic on children's grammaticality judgments. *Journal of Child Language*, 39(1), 61-89.
95. **Khamis-Dakwar, R., & Makhoul, B. (2016).** The Development of ADAT (Arabic Diglossic Knowledge and Awareness Test): A theoretical and clinical overview. In E. Saiegh-Haddad & R. Joshi (Eds.), *Handbook of Arabic Literacy* (pp. 279-300). Springer.
96. **Laks, L., & Berman, R. A. (2016).** A New Look at Diglossia: Modality-Driven Distinctions between Spoken and Written Narratives in Jordanian Arabic. In E. Saiegh-Haddad & R. Joshi (Eds.), *Handbook of Arabic Literacy* (pp. 241-254). Springer.
97. **Lathrop, J. (2019).** *Dialect Transfer for L2 Arabic Learners*. (Publication No. 2569) [Doctoral dissertation, University of North Dakota]. UND Scholarly Commons.
98. **Leikin, M., Ibrahim, R., & Eghbaria, H. (2014).** The influence of diglossia in Arabic on narrative ability: evidence from analysis of the linguistic and narrative structure of discourse among pre-school children. *Reading and Writing*, 27, 733-747.



99. **Levin, I., Saiegh-Haddad, E., Hende, N., & Ziv, M. (2008).**
Early literacy in Arabic: An intervention study among Palestinian kindergartners in the OPT. *Applied Psycholinguistics*, 29(3), 413–436.
100. **Maamouri, M. (1998, September 3–6).**
Language Education and Human Development: Arabic Diglossia and Its Impact on the Quality of Education in the Arab Region. [Paper presentation]. International Literacy Inst., Philadelphia, PA.
101. **Mahfoughi, A., Everatt, J., & Elbeheri, G. (2011).**
Introduction to the special issue on literacy in Arabic. *Reading and Writing*, 24, 1011–1018.
102. **Mahmoud, S. M. (1980).**
Terms of status in colloquial Cairene Arabic: A study in educational linguistics. (Publication No. 8018180) [Doctoral dissertation, University of Illinois at Urbana-Champaign]. UMI.
103. **Makhoul, B. (2015, November 16–18).**
Investigating academic vocabulary among middle-school Arabic native speakers [Paper presentation]. Proceedings of ICERI2015 Conference, Seville, Spain.
104. **Makhoul, B. (2016).**
Moving Beyond Phonological Awareness: The Role of Phonological Awareness Skills in Arabic Reading Development. *Journal of Psycholinguist Research*, 46, 469–480.
105. **Makhoul, B. (2017).**
Investigating Arabic academic vocabulary knowledge among middle school pupils: receptive versus productive knowledge. *J Psycholinguist Res*, 46, 1053–1065.
106. **Makhoul, B., Coptishmael, T., & Khamis Dakwar, R. (2015).**
The Development of Sociolinguistic Diglossic Knowledge in Oral-Literacy Mismatch Situations: Preliminary Findings from Palestinian Arabs. *Psychology*, 6(9), 1168–1179.
107. **Makhoul, B., & Coptishmael, T. (2020).**
Promoting academic literacy skills among seven graders in Arabic as LI in OPT. *Culture and Education*, 32(2), 340–370.
108. **Mitrovic, A. (2020).**
Which varieties of Arabic to learn?. *Human Research in Rehabilitation*, 10(1), 82–87.
109. **Moufarrej, G., & Salameh, C. (2019).**
The Effects of Songs on Vocabulary Retention in Foreign Language Acquisition: The Case of Arabic. *Al-'Arabiyya: Journal of the American Association of Teachers of Arabic*, 52, 101–123.
110. **Myhill, J. (2016).**
The Effect of Diglossia on Literacy in Arabic and Other Languages. In E. Saiegh-Haddad & R. Joshi (Eds.), *Handbook of Arabic Literacy* (pp. 77–96). Springer.



111. **Nader Ali, S. (2014).**
Reading ability and Diglossia in Kuwaiti primary schools. (Publication No. 724379) [Doctoral dissertation, University of Leeds]. CORE.
112. **Najjar, Z. & Jarjoura. A. (2014).**
The e-book in the service of “emerging literacy” among Arabic-speaking preschool children. *ICICTE Proceedings*, 323–334.
113. **Nevat, M., Khateb, A., & Prior, A. (2014).**
When first language is not first: An functional magnetic resonance imaging investigation of the neural basis of diglossia in Arabic. *European Journal of Neuroscience*, 40, 3387–3395.
114. **Oweini, A., Awada, G. M., & Kaissi, F. S. (2020).**
Effects of Diglossia on Classical Arabic: Language Developments in Bilingual Learners. *Journal of Language Studies*, 20, 1–15.
115. **Palmer, J. (2007).**
Arabic Diglossia: Teaching Only the Standard Variety is a Disservice to Students. *Arizona Working Papers in SLA & Teaching*, 14, 111–122.
116. **Palmer, J. (2008).**
Arabic Diglossia: Student Perceptions of Spoken Arabic after Living in the Arab-Speaking World. *Journal of Second Language Acquisition and Teaching*, 15, 81–95.
117. **Palmer, J. (2009).**
Student acculturation, language preference, and L2 competence in study abroad programs in the Arabic-speaking world. (Publication No.3366705) [Doctoral dissertation, The University of Arizona]. UMI.
118. **Poyas, Y., & Bawardi, B. (2018).**
Reading literacy in Arabic: What challenges 1st grade teachers face. *L1-Educational Studies in Language and Literature*, 18, 1–15.
<https://doi.org/10.17239/L1ESLL-2018.18.01.11>
119. **Rabab'ah, G. (2005).**
Compensatory Strategies Used by Learners of Arabic as a Second Language. *Grazer Linguistische Studien*, 63, 47–62.
120. **Ready, C. (2108).**
Maintaining the status quo Diglossia and the case of Arabic language policy in Ceuta. *Language Problems and Language Planning*, 42(2), 173–195.
121. **Rosenhouse, J. (1995).**
Students with special needs: Arabic speaking children in the OPT [Paper presentation]. International Congress on Education of the Deaf, Tel Aviv, OPT.



- 122. Rosenhouse, J. (2016).**
Literacy Acquisition and Diglossia: Textbooks in The OPT Arabic-speaking Schools. In E. Saiegh-Haddad, & R. Joshi (Eds.), *Handbook of Arabic Literacy* (pp. 255-278). Springer.
- 123. Rochdi, A. (2009).**
Developing preliteracy skills via shared book reading: The effect of linguistic distance in a diglossic context. (Publication No.3374069) [Doctoral dissertation, University of Iowa]. UMI.
- 124. Ryding, K. C. (1991).**
Proficiency Despite Diglossia: A New Approach for Arabic. *The Modern Language Journal*, 75(2), 212-218.
- 125. Sabbah, S. S. (2015).**
Is standard Arabic dying. *Arab World English Journal*, 6(2), 54-65.
- 126. Saiegh-Haddad, E. (2003).**
Bilingual oral reading fluency and reading comprehension: The case of Arabic/Hebrew (L1)-;English (L2) readers. *Reading and Writing*, 16(8), 717-736.
- 127. Saiegh-Haddad, E. (2003).**
Linguistic distance and initial reading acquisition: The case of Arabic diglossia. *Applied Psycholinguistics*, 24(3), 431-451.
- 128. Saiegh-Haddad, E. (2004).**
The Impact of Phonemic and Lexical Distance on the Phonological Analysis of Words and Pseudowords in a Diglossic Context. *Applied Psycholinguistics*, 25(4), 495-512.
- 129. Saiegh-Haddad, E. (2005).**
Correlates of Reading Fluency in Arabic: Diglossic and Orthographic Factors. *Reading and Writing*, 18(6), 559-582.
- 130. Saiegh-Haddad, E. (2007).**
Linguistic Constraints On Children's Ability to Isolate Phonemes in Arabic. *Applied Psycholinguistics*, 28(4), 607-625.
- 131. Saiegh-Haddad, E. (2011).**
Literacy reflexes of Arabic diglossia. In M. Leikin, M. Schwartz, & Y. Tobin (Eds.), *Current Issues in Bilingualism: Cognitive and Socio-linguistic perspective* (pp. 43-55). Springer.
- 132. Saiegh-Haddad, E. (2017).**
MAWRID: A Model of Arabic Word Reading in Development. *Journal of Learning Disabilities*, 51(5), 454-462.
- 133. Saiegh-Haddad, E., & Ghawi-Dakwar, O. (2017).**
Impact of Diglossia on Word and Non-word Repetition among Language Impaired and Typically Developing Arabic Native Speaking Children. *Front. Psycholo*, 8, 1-17.



- 134. Saiegh-Haddad, E., & Henkin-Roitfarb, R. (2014).**
The Structure of Arabic Language and Orthography. In E. Saiegh-Haddad & R. Joshi (Eds.), *Handbook of Arabic Literacy* (pp. 3–28). Springer.
- 135. Saiegh-Haddad, E., Levin, I. Hende, N., & Ziv, M. (2011).**
The Linguistic Affiliation Constraint and phoneme recognition in diglossic Arabic. *Journal of Child Language*, *38*(2), 297–315.
- 136. Saiegh-Haddad, E., & Schiff, R. (2016).**
The impact of diglossia on voweled and unvoweled word reading in Arabic: a developmental study from childhood to adolescence. *Scientific Studies of Reading*, *20*(4), 311–324.
- 137. Saiegh-Haddad, E., Shahbari-Kassem, A., & R. Schiff. (2020).**
Phonological awareness in Arabic: the role of phonological distance, phonological-unit size, and SES. *Reading and Writing*, *33*, 1649–1674.
- 138. Saiegh-Haddad, E., & Spolsky, B. (2014).**
Acquiring Literacy in a Diglossic Context: Problems and Prospects. In E. Saiegh-Haddad & R. Joshi (Eds.), *Handbook of Arabic Literacy* (pp. 225–240). Springer.
- 139. Saiegh-Haddad, E., & Taha, H. (2017).**
The Role of Morphological and Phonological Awareness in the Early Development of Word Spelling and Reading in Typically Developing and Disabled Arabic Readers. *Dyslexia*, *23*(4), 345–371.
<https://doi.org/10.1002/dys.1572>
- 140. Sayahi, L. (2007).**
Diglossia and Contact-induced Language Change. *International Journal of Multilingualism*, *4*(1), 38–51.
- 141. Sayahi, L. (2015).**
A Moving Target: Literacy Development in Situations of Diglossia and Bilingualism. *Arab Journal of Applied Linguistics*, *1*(1), 1–18.
- 142. Schiff, R., & Saiegh-Haddad, E. (2017).**
When diglossia meets dyslexia: The effect of diglossia on voweled and unvoweled word reading among native Arabic-speaking dyslexic children. *Reading and Writing*, *30*, 1089–1113.
- 143. Schiff, R., & Saiegh-Haddad, E. (2018).**
Development and Relationships Between Phonological Awareness, Morphological Awareness and Word Reading in Spoken and Standard Arabic. *Front. Psychol*, *9*, 1–13.
- 144. Shendy, R. (2019).**
The Limitations of Reading to Young Children in Literary Arabic: The Unspoken Struggle with Arabic Diglossia. *Theory and Practice in Language Studies*, *9*(20), 123–130.



- 145. Shiri, S. (2015).** Intercultural Communicative Competence Development During and After Language Study Abroad: Insights From Arabic. *Foreign Language Annals*, 48(4), 541-569.
- 146. Shockley, M., & Nurcholis, A. (2016).** Features of Diglossic Stability in Arabic with Counterexamples. *Jurnal Lisanudhad*, 30(2), 69-85.
- 147. Snyder, H. (2019).** Literature review as a research methodology: An overview and guidelines. *Journal of Business Research*, 104, 333-339.
<https://doi.org/10.1016/j.jbusres.2019.07.039>
- 148. Stansfield, C. W., & Kenyon, D. M. (1987).** *Issues and Answers in Extending the ACTFL Proficiency Guidelines to the Less Commonly Taught Languages*. Center for Applied Linguistics. Washington, D. C.
- 149. Taha, H. Y. (2013).** Reading and Spelling in Arabic: Linguistic and Orthographic Complexity. *Theory and Practice in Language Studies*, 3(5), 721-727.
- 150. Taha, H. (2017).** How Does the Linguistic Distance Between Spoken and Standard Language in Arabic Affect Recall and Recognition Performances During Verbal Memory Examination? *Journal of Psycholinguist Research*, 46(3), 551-566.
- 151. Taha, H. (2019).** The role of semantic activation during word recognition in Arabic. *Cognitive Processing*, 20, 333-337.
- 152. Thonhauser, I. (2000).** Multilingual Education in Lebanon: 'Arabinglizi' and Other Challenges of Multilingualism. *Mediterranean Journal of Educational Studies*, 6(1), 49-61.
- 153. Thonhauser, I. (2003).** Written Language but Easily to Use! Perceptions of Continuity and Discontinuity between Written/Oral Modes in the Lebanese Context of Biliteracy and Diglossia. *Written Language & Literacy*, 6(1), 93-109.
- 154. Tibi, S., Joshi, R. M., & McLeod, L. (2013).** Emergent writing of young children in the United Arab Emirates. *Written Language & Literacy*, 16(1), 77-105.
- 155. Tibi, S., & McLeod, L. (2016).** The Development of Young Children's Arabic Language and Literacy in the United Arab Emirates. In E. Saiegh-Haddad & R. Joshi (Eds.), *Handbook of Arabic Literacy* (pp. 303-321). Springer.



- 156. Trentman, E. (2011).**
L2 Arabic Dialect Comprehension: Empirical Evidence for the Transfer of Familiar Dialect Knowledge to Unfamiliar Dialects. *L2 Journal*, 3(1), 22–49.
- 157. Trimasse, N. (2019).**
The source of lexical transfer in L3 production in a diglossic context. *International Journal of Multilingualism*, 16, 398–410.
- 158. Uziel-Karl, S., Kanaan, F., Yifat, R., Meir, I., Abugov, N., & Ravid, D. (2014).**
Hebrew and Palestinian Arabic in OPT. *Topics in Language Disorders*, 34(2), 133–154.
- 159. Whitcomb, L. E. (2001).**
Investigating Diglossic Arabic Language Variation in Foreign Language Instruction and in Native Speaker Behaviour. Northwestern University
- 160. Wilmsen, D. W. (1995).**
The word play's the thing: Educated Spoken Arabic in a Theatrical Community in Cairo. (Publication No.9610267) [Doctoral dissertation, The University of Michigan]. UMI.
- 161. Gregory, L; Taha-Thomure, H., Kazem, A; Bonni, A; Elsayed, M. Taibah, N. (2021).**
Advancing Arabic Language Teaching & Learning: A path to reducing learning poverty in the MENA. Washington, D.C. World Bank Group.
- 162. Youssi, A. (1995).**
The Moroccan Triglossia: Facts and Implications. *Int'l. J. Soc. Lang.*, 112, 29–43.
- 163. Zughoul, M. R. (1980).**
Diglossia in Arabic: Investigating solutions. *Anthropological Linguistics*, 22(5), 201–217.
- 164. Zuzovsky, R. (2010a).**
Instructional variables involved in problems associated with diglossia in Arabic speaking schools in the OPT: PIRLS 2006 findings. *Journal for Educational Research Online*, 2(1), 5–31.
- 165. Zuzovsky, R. (2010b).**
The impact of socioeconomic versus linguistic factors on achievement gaps between Hebrew-speaking and Arabic-speaking students in the OPT in reading literacy and in mathematics and science achievements. *Studies in Educational Evaluation*, 36, 153–161.



APPENDIX A – CODE BOOK

PAPER TYPE

- 1- Quantitative research
- 2- Qualitative research
- 3- Mixed methods
- 4- Review and MA
- 5- DOA and Editorials
- 6- Other (Specify)

AUTHOR

Country Affiliation / Geographic Region

- | | |
|------------|----------------------------|
| 1- OPT | 12- Kuwait |
| 2- USA | 13- New Zealand |
| 3- UK | 14- Oman |
| 4- Morocco | 15- Serbia |
| 5- Jordan | 16- Sweden |
| 6- Lebanon | 17- France |
| 7- Qatar | 18- Egypt |
| 8- KSA | 19- Syria |
| 9- Algeria | 20- Tunisia |
| 10- UAE | 21- Multiple / Arab region |
| 11- Italy | 22- Yemen |

DIGLOSSIA – CONCERNS AND RECOMMENDATIONS

Main Issue:

- 1- Limited Research
- 2- Inconsistent Findings
- 3- Distance between MSA and SPA
- 4- Effect of Diglossia on acquiring MSA
- 5- Other (Specify)

Main Recommendation:

- 1- Early exposure to MSA
- 2- Effective student-centered teaching strategies
- 3- Effective Teacher preparation and training
- 4- More research needed
- 5- Explicit phonological training for students
- 6- Other (Specify)



RESEARCH STUDIES**Main Objective / Research Question(s)**

Open Code

Grade level

- 1- Pre-K to Elementary
- 2- Middle and Highschool
- 3- University students
- 4- Other (Specify, including PD for teachers)
- 5- K-12 inclusive (1and2)
- 999- Missing

Type of Students

- 1- Typical Profile
- 2- A-Typical Profile (Students with disabilities)

of Participants

Open code
999 if not mentioned

Duration of Intervention

Open code
999 if not mentioned

Type of School

- 1- Public school
- 2- Private school
- 3- College/University
- 4- Multiple (specify)
- 999- Missing

Participants' Language variety

- 1- L1
- 2- L2
- 3- L1 and L2
- 999- Missing

Dialect

- 1- Yes (Specify)
- 2- Not Specified



Geographic Region of Study**Country:**

| | | | |
|-----|---------|------|----------------------|
| 1- | OPT | 12- | Kuwait |
| 2- | USA | 13- | New Zealand |
| 3- | UK | 14- | Oman |
| 4- | Morocco | 15- | Serbia |
| 5- | Jordan | 16- | Sweden |
| 6- | Lebanon | 17- | France |
| 7- | Qatar | 18- | Egypt |
| 8- | KSA | 19- | Syria |
| 9- | Algeria | 20- | Tunisia |
| 10- | UAE | 21- | Multiple/Arab region |
| 11- | Italy | 999- | missing |

LANGUAGE ASPECTS**Teaching Strategy Tested / used**

| | |
|------|---|
| 1- | Phonetics |
| 2- | Sight Words |
| 3- | Literature |
| 4- | Collaborative Learning |
| 5- | Project based Learning |
| 6- | Creative Arts |
| 7- | Standard Based Approach |
| 8- | Multiple (Specify) |
| 9- | Others (Specify -Balanced Literacy approach, using visuals, Active Learning) |
| 999- | Missing |

Linguistic Skill Tested

Open entry (Specify)

Brief description of Methodology

Open Code

NA- If not Applicable

CONCLUSION**Overall general findings**

Open code with general note about findings as presented by author

Diglossia Related Argument

Open code with general note about findings as presented by author



APPENDIX B – OVERVIEW OF INCLUDED RESEARCH

| YEAR | AUTHOR | OVERVIEW |
|------|-------------------------------|--|
| 2021 | Froud & Khamis-Dakwar | In this systematic review of Arabic language development, the authors pointed out to the growing focus on standardizing language assessments in various Arabic dialects, with the dual purpose of developing valid, reliable clinical tools. They suggested that the challenge was in incorporating awareness of diglossic effects on language comprehension, production and use. |
| 2020 | Abou-Ghazaleh, Khateb & Nevat | 39 Palestinian university students were given images that they needed to name in LA and SA while their brain function scanned. Behavioral measures indicated that SA naming in SNC was easier than in fLSc and sLSc, while analysis of fMRI data revealed a significant effect of context. Region of interest analysis in six areas that were activated during the task exhibited two distinct patterns of differences in activation between fLSc and sLSc, and SNC. |
| 2020 | Khamis-Dakwar | the paper looked into two studies on diglossia and its interactions with assessment and intervention services provided by speech-language pathologists (SLPs) in different CSD population. Findings in Aphasia Recovery study predicted cases of non-parallel recovery of MSA compared to spoken dialect. It was suggested that children with ASD might develop competence and use for all systems accessible to them, but use them for different functions. |
| 2020 | Makhoul & Coptishmael | 10 literacy units were administered to 92 7th grade Palestinian students (1 group with printed learning material, 1 with computerized learning platforms and 1 control). Analysis indicated benefits of academic literacy intervention to promote performance of Arabic-native-speakers. Awareness of Arabic's diglossic nature and gender seemed to modulate academic literacy performance. |
| 2020 | Mitrovic | The author discussed that although, Arabic has been taught all over the world, primarily at the university level, priority had always been given to "higher language". In creating curricula for teaching Arabic, more attention had been paid to relating the opposites of diglossia with the main speech dialects. The author advanced that diglossia was the main obstacle in searching for the optimal teaching model for the Arabic language. |



| YEAR | AUTHOR | OVERVIEW |
|------|---|---|
| 2020 | Oweini, Awada & Kaissi | Testing 140 bilingual learners in primary and elementary cycles of a private school in rural Lebanon indicated that there was a clear preference towards English, that balanced proficiency in two languages could result in enhanced cognitive and linguistic functions irrespective of SES, that MSA was more difficult to acquire than SA, but difficulty decreasing with schooling years, and that Diglossia had an effect on the late development of oral language. |
| 2020 | Saiegh-Haddad, Shahbari-Kassem & Schiff | Testing the phonological awareness of 200 Palestinian Arabic-speaking in middle and high-school classes underscored the roles of item-based properties of phonological distance and phonological-unit size, as well as the role of participant-based characteristics of SES in phonological awareness in Arabic diglossia. |
| 2019 | Alabar | 3 groups of 3 Assessor Teachers, 3 (Native) Arabic Teachers and 3 Learners in the UK were interviewed about their opinions on NSs as a concept and as a norm. The research suggested that linguistic competence in Arabic should be redefined from the non-nativeness perspective of language pedagogy where "intelligibility" might be validated as a norm of communication and interaction. If Arabic NS should not be taken as a model, then an alternative L2 user norm should have the possible end state of proficiency in the two varieties; someone who is a diglossic competent L2 user. |
| 2019 | Albirini | 26 Arabic speakers in the USA were administered a series of tests to investigate where their proficiency in SA converged with their proficiency in Colloquial Arabic (CA) or English. the Arabic NS' proficiency in MSA is closer to their proficiency in SPA than native Arab readers their proficiency in English. |
| 2019 | Amin & Badreddine | 56 Lebanese students had their lessons recorded over a 6-week period, and their 2 teachers interviewed. The strict initial response of Follow up of I(teacher)-R(student)-F(teacher) pattern was observed. Additionally, participating teachers' preferences for which Arabic language variety to use in classroom were reflected in actual use. |



| YEAR | AUTHOR | OVERVIEW |
|------|--|--|
| 2019 | Asadi | 310 Palestinian preschoolers and 1st graders were tested on phonemic isolation. Results indicated that even after mastering alphabetic principle, 1st graders continued to be challenged in accessing and processing phonological representations important in reading. Affiliation of phonemes influenced phonemic isolation performance which was the most important predictor of reading. Diglossic phonemes and syllabic structures were found to impact PA performance. It was concluded that the gap between spoken and standard languages must be considered in pedagogy. |
| 2019 | Asadi & Abu-Rabia | The impact of phonemic positions and lexical status on phonemic isolation performance of 1012 Palestinian primary school children were tested. The results suggested significant effect of the phonemes' position and lexical status on the phonemic isolation performance. The performance in pseudo-words was lower than all the others. No differences were found between shared, spoken and standard words. |
| 2019 | Asli-Badarneh & Leikin | 199 bilingual Arabic-Hebrew and Hebrew Arabic preschoolers were compared to their monolingual peers and tested individually for their morphological ability. The results suggested significant effects of mother tongue, bilingualism and type of morphology on children's performance. Better results were obtained in Hebrew-speaking monolinguals and in Arabic-speaking bilinguals. There were also differences in performance among bilingual and monolingual groups that seemed to relate not only to psycholinguistic factors but also to sociolinguistic factors. |
| 2019 | Ben Romdhane | An American student participating in a summer program at a language institute in Tunisia was studied. Several conclusions were drawn suggesting that both spoken and formal forms should be taught together in a single course of instruction and that quality interaction had potential to grow into relationships between SA learners and native speakers leading to successful acculturation. |
| 2019 | Eviatar, Ibrahim, Karelitz & Ben Simon | 119 Palestinian university students were individually tested for the effects of orthography on text reading. The results indicated that the best predictor of oral reading speed was the speed of reading single words, with speed of letter naming adding to the prediction in Hebrew, but not in Arabic. Both the characteristics of the text and of the orthography played roles in the quality of reading. |



| YEAR | AUTHOR | OVERVIEW |
|------|-----------------------|---|
| 2019 | Hamzaoui | A mixed-method research on 72 primary, elementary and high school students and teachers in Algeria indicated that both teachers and pupils displayed positive attitudes towards MSA, whereas pre-school grade pupils favoured Algerian Arabic instead. |
| 2019 | Khamis-Dakwar | In this review, foundational knowledge about Arab-Americans, their distinctiveness when compared to Arabs in the Arab world, the linguistic and cultural heterogeneity, and distinctive linguistic features of Arabic and diglossia were noted. Studies of Arabic heritage speakers in the U.S. revealed that adult Arab showed incomplete acquisition of their first language and positive and negative effects of prior dialectal knowledge. The review indicated that most guidelines for professionals working with Arabs and/or Arab-Americans failed to recognize diversity and variety of diglossia in the diaspora. |
| 2019 | Khamis-Dakwar & Froud | The authors suggested that diglossia had constant interactive effects on language development and that considering the two language varieties as separate would lead to an incomplete understanding. The integrative nature of diglossia had effects on child's language development before entered schooling and was apparent in language development in all language domains at all stages. |
| 2019 | Lathrop | A study of 109 students at language centers suggested that learners who focused less on MSA and more on SA had a stronger ability to navigate dialect transition than those who placed the emphasis on MSA. It was also implied that language program should work on emphasizing communication ability within the community (SA), then integrating MSA instruction later in learning. Finally, the study proposed that learners who studied in the Levant understood other dialects better than those who studied elsewhere. |
| 2019 | Moufarrej & Salameh | 20 university students were divided into an experimental (learned songs in their sung form) and a control group (learned same songs in spoken form) over nine weeks. Vocabulary retention was significantly higher among experimental group and singing increased students' motivation and engagement. The study proposed that songs can be used to help learners of Arabic acquire a colloquial language while studying MSA. |



| YEAR | AUTHOR | OVERVIEW |
|------|--|---|
| 2019 | Shendy | In this argumentative discussion, the author suggested that there was no merit in the popular concern that reading to children in Spoken Arabi would weaken their later grasp of MSA and argued that there were wider proven benefits of reading to children beyond literacy. The author recommended that the diglossic nature of Arabic had to be accepted, its costs and limitations examined, managed and mitigated. |
| 2019 | Taha | 29 Palestinian native Arab readers were tested on reading. Results showed that reading semantic pseudowords revealed the highest accuracy levels and shorter reading times compared to reading pseudowords from the phonological training trial and unfamiliar pseudowords. Results suggested that earlier exposure to SA might contribute to establishing semantic and phonological representations of SA words prior to the orthographic stage of learning and that such exposure could make reading acquisition in early grades easier than it has been reported in existing studies. |
| 2019 | Trimasse | 600 1st year EFL university students in Morocco were tested on their writing. The results indicated that semantic extensions in L3 production did not always occur from the learners' L1 (Moroccan Arabic) and that both varieties in a diglossic situation competed as sources of lexical transfer. Lexical errors seemed to come from both varieties in a diglossic situation. |
| 2018 | Abbas, Vaknin-nusbaum, Neuman, Mongillo, Feola & Goldberg Kaplan | Linguistic transitions made by 1 Palestinian exemplary mathematics teacher were investigated. Results suggested that Arab-speaking mathematics teachers were aware of the gap between home SA and school MSA and used linguistic transition as a teaching strategy to develop academic thinking and behaviour among their students. Math teachers also built non-formal bilingual education programme where two languages were used to teach mathematics. |
| 2018 | Alghmaiz | A closed role-play data collection method was used to investigate the development of refusals to invitations made by 178 students L2 learners of Emirati Arabic at a Language center, and to compare their production with the production of native Emirati Arabic speakers. The analysis indicated that learners were remarkably more direct than native speakers, while the former learners who remained longer in the target community produced refusal patterns similar to those of native speakers. Additionally, the content of the semantic formulas used differed according to the social level of the interlocuteur. |



| YEAR | AUTHOR | OVERVIEW |
|------|------------------------------|--|
| 2018 | Bani-Khaled | 28 research articles were analyzed and trends and recommendations were highlighted such as Arabic as a mother tongue shouldn't be neglected in the process of learning a foreign language. Evidence in literature supported the notion of language skills transfer. Dual instruction created numerous problems rooted in the difficulty of grammar and orthography of Classical Arabic. Diglossic Arabic was a hot issue and division had negative impacts on acquiring general literacy in both Arabic and foreign languages. Lack of competency in SA as mother tongue drove Arabs to switch to foreign languages or local dialects. |
| 2018 | Benmamoun, & Albirini | 79 university students were examined with respect to sentential negation by completing five oral tasks targeting negation of eight different clause types. The analysis indicated that L2 learners did not display clear transfer effects from L1 (English), whereas heritage speakers (Egyptian/Palestinian) showed both positive and negative influence of L1 (MSA). There was minimal significant difference between Arabic heritage speakers and advanced L2 groups with regard to their acquisition of MSA sentential negation. |
| 2018 | Dakwar, Ahmar, Farah & Froud | The authors adapted BAT (Bilingual Aphasia Test) to Palestinian Arabic and MSA to assess residual linguistic abilities of 60 Palestinian adults with aphasia. The results suggested that the development of BAT to assess all language varieties in diglossia would enable clinicians to compare abilities in the two language varieties and that BAT supported the enhancement of functional communication in multilingual aphasia. |
| 2018 | Eisele | Munther Younes' monograph "The Integrated Approach to Teaching Variation" was reviewed and issues were uncovered and identified. The review indicated that choice of teaching methods (MSA first, Dialect first then switch to MSA, simultaneous MSA/dialect, or MSA+ element of dialects) depended on which of the 3 aspects of Arabic linguistic situation an instructor thought most important. |



| YEAR | AUTHOR | OVERVIEW |
|------|------------------------|---|
| 2018 | Froud & Khamis-Dakwar | In this brief review, an overview of neurolinguistic research on Arabic diglossia and on the application of Event-Related Potential (ERP) was provided. Authors proposed a neurocognitive model of Arabic diglossia. It proposed that for adult Arabic speakers raised in the Arab world in light of diglossia, lexicons of spoken and standard varieties were differentiated into two separate linguistic representations, but the grammatical rules for the two language varieties might be represented within a unified grammatical system. |
| 2018 | Poyas & Bawardi | 20 1st grade Palestinian teachers were individually interviewed. They suggested health-related-emotional-behavioral problems, insufficient preparation, and complexity of Arabic language and its orthography as factors causing reading difficulties in Arabic. Teachers perceived that introducing reading in kindergarten and st grade must be considered as one continuum, and that it was very important that teaching methods followed the same principles. The study suggested that it was important not to settle for linguistic education in kindergartens only, but to also devote resources to planning of a family literacy program to enrich parents and young children's experience with MSA. |
| 2018 | Ready | The study explored how ideologies in language policy maintained the linguistic status-quo of Spanish in Ceuta and justified suppression of Arabic. Analysis showed a perception of a "natural" distinction between H and L varieties. This attitude justified Spanish as the prestigious variety and Arabic as the low one. Policy documents reinforced the current status quo in Ceuta through the processes of iconization, fractal recursivity, and erasure. |
| 2018 | Schiff & Saiegh-Haddad | 100 K-12 Palestinian students were tested over winter/spring terms. Results indicated that though individual differences between students were eliminated at end of elementary school in SA and StA, gaps in morphological awareness and in reading skills persisted in junior and high school years. Additionally, gap in reading accuracy and fluency between SpA and StA was evident in voweled and unvoweled words and morphological awareness in SA contributed to reading fluency in StA. |



| YEAR | AUTHOR | OVERVIEW |
|------|-------------------------------|--|
| 2017 | Alabar | 9 adults (assessor teachers, teachers, and learners of Arabic as a foreign language) were studied and participants viewed Arabic culture as a homogeneous concept with its wide spectrum of values and behaviours. Most talked about communication as a component (not an indicator) of proficiency. The author suggested several competences of communicative Arabic proficiency (sociolinguistic competence, Bi-dialectical competence, Interactional competence, Cultural competence). |
| 2017 | Alwasel | Children in 4 1st year Saudi schools, their parents and teachers were studied and results indicated that local Arabic was the predominant type of Arabic used in communication at home before entering school and the amount of exposure to Standard Arabic before attending primary school was generally low. |
| 2017 | Asadi, Khateb, Ibrahim & Taha | 1305 Palestinian students in 1st to 6th grades were tested and analysis suggested that the weight of the contribution of the same predictors differed between decoding and fluency. Visual perception failed to predict decoding and fluency, except marginally in 1st grade. Involvement of memory was significant in all grades in decoding but not in fluency. Results reinforced the argument that RAN didn't relate to phonological processing, hypothesizing that phonology contributed to decoding abilities. |
| 2017 | Asadi, Khateb & Shany | 1385 Palestinian students in primary classes were tested and results indicated that reading comprehension was moderately explained by SVR. Orthographic and morphological knowledge explained an additional 10–22% of the variance beyond that explained by basic SVR components. These findings demonstrated that certain linguistic aspects of Arabic impact reading processes differently when compared with other languages. |
| 2017 | Carroll, Kahwaji & Litz | The language and literacy experiences of 22 Emirati parents and their children (age 5 to 12) in the UAE were examined. Analysis suggested that Emiratis largely used colloquial Arabic as the oral means of communication. Furthermore, literacy practices, which by default used MSA, were not part of the daily routine of our participants with their children. |



| YEAR | AUTHOR | OVERVIEW |
|------|--|---|
| 2017 | Gherwash | This case study used oral life-story interviews to explore the literacy practices of 4 adult Arabic NSs from Jordan, Kuwait, KSA and Yemen. Analysis profiled Arab reader as dispassionate, and exposure to reading was confined only to the classroom. The lack of prolonged exposure to MSA had a negative impact on the amount of reading they practiced outside of school, which in turn impacted their confidence as language users. |
| 2017 | Hamzaoui | 216 Algerian primary school pupils, 24 teachers and 2 inspectors were studied over 3 months. Analysis indicated that pupils' linguistic weaknesses laid in their lack of exposure to MSA outside the school environment, but perceptions about the complexities of it decreased as they moved up grades. Teachers used a middle language in their teaching strategies. Both teachers and learners perceived MSA as the 'real' and 'correct' variety used in formal education. |
| 2017 | Hassunah Arafat, Korat, Aram & Saiegh-Haddad | Early literacy skills of 109 Palestinian kindergarten children were assessed and reassessed toward the end of 1st grade. Analysis indicated that they had a low level of early literacy across most variables and large standard deviations demonstrating great variability between children. Results suggested that child's age and SES continued to affect child's literacy achievements despite formal teaching and the highly transparent pointed Arabic script. |
| 2017 | Hebbali | In Algeria, 20 teachers, 12 Category 1 students (previously enrolled in a Quran school) and 25 Category 2 students (were not enrolled in a Quran school) were studied. Analysis indicated that most teachers wanted the spread of Quran schools as aid-pedagogical institutions. They agreed on the negative impacts of late exposure to SA on young children's academic attainment. Students who underwent education in Quran schools, proved to be linguistically qualified to communicate with more ease. Teachers were pushed towards diglossic switching to help beginning learners. Learning difficulties were due to the linguistic gap between home and school varieties. |
| 2017 | Hussein | 50 Egyptian university students were surveyed and analysis indicated that Egyptian students had a slightly positive attitude towards the fuṣḥā Arabic and they also tended to exhibit positive affective and behavioural tendencies towards Egyptian Arabic. |



| YEAR | AUTHOR | OVERVIEW |
|------|------------------------------|---|
| 2017 | Makhoul | 600 Palestinian Arabic native speakers in 7th and 9th grade were tested for academic vocabulary. Results suggested no significant difference between them in academic vocabulary knowledge but significant difference between the different Arab sub-groups (lowest scores noted for Bedouin sub-group, characterized by the lowest SES). Additionally, results pointed to improvement in receptive academic knowledge towards the end of middle school but not on the productive knowledge level. |
| 2017 | Saiegh-Haddad | Several strands of evidence were synthesized to propose a model of Arabic word reading in which three conspicuous features of the language and orthography shaped the development of word reading, namely linguistic structure, orthographic structure and sociolinguistic context. The first foundation required phonemic awareness, letter-sound knowledge, and diacritic-sound knowledge. The second foundation was morpho-orthographic. Teaching and testing of reading related skills should take into account diglossia and the linguistic affiliation. |
| 2017 | Saeigh-Haddad & Ghawi-Dakwar | 50 typical Palestinian and 50 SLI (Specific Language Impairment) primary school students had been tested on targeted lexical distance and phonological distance. Results indicated that these two factors affect phonological storage in working memory in Arabic speaking TD and SLI children. Moreover, Results suggested an interaction between the quantitative length memory span factor and the qualitative linguistic distance representational factor. |
| 2017 | Saiegh-Haddad & Taha | 140 grade 1 to 4 Palestinian children divided into reading-accuracy disabled (RD) group and age-matched typically developing (TR) control one, and tested on phonological awareness. Results indicated early emergence of morphological awareness deficits, alongside phonological deficits in Arabic RD, as well as a role of morphological processing in early reading and spelling. |



| YEAR | AUTHOR | OVERVIEW |
|------|-------------------------------|--|
| 2017 | Schiff & Saiegh-Haddad | Spoken Arabic (SpA) and Standard Arabic (StA) voweled and unvoweled word reading among 103 6th grade Palestinian native-speakers with developmental dyslexia were examined. Analysis indicated that vowelization played a pivotal role in reading ability in both SpA and StA. The difficulty with reading StA was unchanged until 6th grade. After 2nd grade, a process of disengagement began, whereby readers abandoned vowelization for decoding and employed higher-order linguistic processes for rapid and accurate word identification. Diglossia had a strong impact on reading ability in dyslexic children. Finally, SpA reading fluency predicted StA reading efficiency for both TD and dyslexic readers. |
| 2017 | Taha | Memory and learning tasks were developed to assess how Arabic diglossia affected verbal learning memory of 30 Palestinian university students. Analysis indicated that Diglossia had a significant effect on the storage and short-term memory functions but not on long-term memory functions. |
| 2016 | Al-Mahrooqi, Denman & Sultana | 20 university students and 15 instructors, native speakers of Arabic at an Omani university were surveyed while 50 participants maintained a reflective journal over two weeks. Results indicated that participants rarely used StA in their daily lives although they believed it would continue to survive in the foreseeable future. Challenges to StA were identified as increasing pace of globalisation and English's importance, while its supporting factor was mainly Arabic's strong associations with Islam and heritage. |
| 2016 | Eviatar & Ibrahim | Palestinian good readers in 3rd and 6th grades were examined and analysis indicated that the specific combination of visual characteristics and the limited capabilities of the right hemisphere lessened its ability to participate in initial word identification processes as well as in skilled reading. |



| YEAR | AUTHOR | OVERVIEW |
|------|-------------------------|--|
| 2016 | Humeidan | 115 university students and 8 teachers were studied and analysis indicated that students did not realize the importance of colloquial Arabic in forming a speech community, and that classroom (and teachers) did not seem to facilitate building understanding of Arabic speech community. Additionally, students did not realize that they can engage in activities that are similar to the real world, in the classroom. The author recommended new curriculum introducing students to colloquial varieties earlier alongside MSA so there was an increased understanding from the onset of the importance and usage of both. |
| 2016 | Khamis-Dakwar & Makhoul | 8 Palestinian elementary grade children were assessed by "ADAT" (Arabic Diglossic Knowledge and Awareness Test). Results suggested that by 1st grade, all children explicitly identified the context of use for the two language varieties, if given prompting, and without prompting by 5th grade. 1st and 2nd graders reported liking to write in MSA but preferred SA for speaking. Receptive vocabulary sub-test demonstrated significant differences in performances depending on type of target lexical item but only at the 1st grade level. Children's accuracy level for metaphonological awareness in 1st grade was significantly lower for distinct MSA target phonemes than target phonemes. |
| 2016 | Laks & Berman | 27 Jordanian adults were shown a 7- minute film followed by test to write (in MSA) and re-tell (in SA). Overt case marking turned out to be distinctive only in the rare cases when diacritics were in fact added to the word-final consonant. Distinct means were used to substitute for the lack of a morphologically marked infinitive in both MSA and SA. |
| 2016 | Makhoul | 206 at-linguistic risk pupils (LR group) and normally developing readers (HG group) in 1st and 2nd grade Arabic native speakers (Palestinians) were studied for the "Arabic Is Our Language" phonological awareness training program. Results indicated moderate positive correlation between phonological awareness and reading performance within HG group, and strong positive relationship with the LR group. There was significant improvement in phonological awareness skills in 2nd grade after training. The greatest difficulty in 1st grade was in Phoneme segmentation task within HG group and phonemic manipulation within LR group. |



| YEAR | AUTHOR | OVERVIEW |
|------|------------------------|--|
| 2016 | Myhill | The author argued that basic literacy rates in Arabic-speaking countries were far lower than would be expected, and it mostly was because of usage of a language not spoken anymore. The researcher recommended to base early literacy, through 3rd or 4th grade, on written phonological representations of the different spoken dialects, and then switch to the traditional written language. |
| 2016 | Rosenhouse | Vocabulary of textbooks for elementary grade Palestinians were examined and about twenty morphological and syntactic forms occurring in the books were compared with parallel structures used in recent textbooks in the OPT CA. Analysis indicated that grammatical and lexical differences were found between the 'new' books for the lower and higher grades as well as between the 'new' and 'old' books. In lower grade books, MSA grammar was taught implicitly and functionally, and explicitly in higher grades. |
| 2016 | Saiegh-Haddad & Schiff | 100 Palestinian students in primary, elementary and secondary classes were tested and analysis indicated that there were significant differences in reading SpA versus StA words, voweled and unvoweled words across all grades. Research suggested that diglossia affected word reading accuracy and fluency and that phonemic vowelization didn't facilitate word reading accuracy in Arabic, probably impeding reading fluency. |
| 2016 | Shockley & Nurcholis | Researchers argued that evidence seen in both recent and older scholarships indicated that MSA might be losing ground in political and educational domains, both to English and colloquial forms of Arabic, and that current shakings in ideology within the Arab world along with Western democratic ideals might lead to the subversion of superimposed MSA forms in a variety of settings. However, if bilingual diglossia and classical diglossia are compared, the same types of diglossic shift were possible. |
| 2016 | Tibi & McLeod | The paper discussed issues relating to young children's emergent literacy, including bilingualism, diglossia, and writing, in light of the UAE New School Model. Key issue identified was how to raise a generation of multi-linguals (in MSA, SA and English). Analysis suggested that if Emirati children continued to be taught mainly in English, their knowledge of MSA might suffer, mostly because of diglossia, limited exposure to MSA, and the recent changes in KG curricula reducing formal instruction of Arabic language time. |



| YEAR | AUTHOR | OVERVIEW |
|------|--|--|
| 2015 | Al- Brri, Ahmed Bani-Yaseen, Al-Zu'bi & Al-Hersh | 2 Arab studies, and a foreign study were studied and the results indicated that Classical Arabic was the strongest ligament bringing people of the Arab nation together. There were many reasons for the diglossia widespread among students, the most important role to maintain classical Arabic was the role of family and environment, and that diglossia can be reduced by simplifying classical rules of Arabic; facilitating the teaching methods and paying attention to basic Arabic. |
| 2015 | Al-Sobh, Abu-Melhim & Bani-Hani | The researcher conducted interviews with linguistic scholars around the concept of diglossia focusing on Arabic and distinguished 5 levers of temporary Arabic: classical, modern-classical, colloquial of educated, of enlightened, and of illiterates. He suggested that classical Arabic was going through problems of lower standard achievement, lower-level competence, and cultural alienation among others. |
| 2015 | Brosh | 30 Palestinian students (and teachers) were studied. Findings suggested that most participants perceived SV important because it was the language of the Qur'ān and prayer. However, they disliked the experience of learning it in school, viewing it as difficult to learn. They also believed that their mother tongue hindered more than supported the learning of SV. |
| 2015 | Damanhour | 59 Saudi students (29 bilingual Saudi in an English-speaking country and 30 monolingual Saudi in Arabic medium of instruction school) were examined to study the influence of early and heavy exposure to a second language (English) on the recognition of Arabic emphatic phonemes. Findings indicated that phonological awareness was influenced by the knowledge of a second language (English), diglossia and the distance between SA and StA. |
| 2015 | Makhoul | 1322 7th, 8th and 9th grade Palestinian students were tested on academic vocabulary. The results pointed to significant differences between age groups in all evaluation measures, where 7th graders showed the lowest performance. Lowest performance was noted among Bedouins, and highest was among Druzes. Girls' superiority in performance across all measures and age groups was noted. |



| YEAR | AUTHOR | OVERVIEW |
|------|--------------------------------------|---|
| 2015 | Makhoul, Coptishmael & Khamis Dakwar | 45 Palestinian students were tested and findings suggested that children developed meta-linguistic knowledge with age but that there was noticeable progress in explicit diglossic knowledge in 3rd grade. KG and 1st graders were not able to consciously define the two language varieties. 3rd to 5th graders were generally able to report on the use of two varieties in terms of contexts. They also expressed superior attitude towards MSA. Participants expressed challenges in MSA in all grade levels, especially in reading. |
| 2015 | Sabbah | This work aimed to highlight different linguistic and social phenomena that anticipate the "death" of the arabic language such as "Arabization", "Englishization", "Diglossia", and "Code-Switching". It was suggested that Arabs should take serious actions to stop any deterioration of their language, parents instill in their children strong feelings of loyalty to Arabic, and educational systems be reformed so that adequate knowledge of Arabic would be a prerequisite to promote students to higher classes. |
| 2015 | Sayahi | In this analysis of the challenges of literacy development in cases of classical diglossia and bilingualism, focusing on Tunisia, it was suggested that diglossia and bilingualism had implications on literacy development and overall school success in Tunisia. In Tunisia, Vernacular Arabic was marginalised in favor of Standard Arabic. The differences between both varieties made it really challenging for NSs to succeed in both. |
| 2015 | Shiri | 352 university students from the USA on an 8-week study abroad program for Arabic were surveyed and results suggested that even short-term study abroad would have significant effects on ICC development when carefully planned. Most students reported that fundamental changes in their knowledge, skills, beliefs, and attitudes were sustained and further developed upon their return to the USA. Diglossic language development functioned as a valuable gateway for developing ICC, supporting the call for incorporating Arabic dialects into the curriculum and teaching such dialects sustainably at home and during study abroad. |



| YEAR | AUTHOR | OVERVIEW |
|------|--------------------|--|
| 2014 | Abu-Melhim | Types of diglossic code-switches and their pragmatic functions were examined during 30-minute taped informal conversations with 10 adults from Jordan, Iraq, Morocco, Egypt, and Saudi Arabia. The analysis indicated that switching to MSA was used only for purposes of clarity and comprehension and that all types of code-switches were used, from word to sentence level. |
| 2014 | Al-Azraqi | 101 Saudi children (an experimental group of half the children attended Kindergarten KG, and the control group didn't) were tested on diglossia. Results suggested that current language learning programs at KG were insufficient to help children overcome diglossia. There were no significant differences between mean scores of children who attended and those who did not attend KG. |
| 2014 | Al Musawi | 78 hearing Kuwaiti children and 34 deaf Kuwaiti children were tested on Arabic reading acquisition and development at 3 phases, from pre-school, through 1st year 1 and ending at 2nd year. Analysis suggested phonological, morphological and dialect awareness as key components involved in cognitive-linguistic processing of reading and spelling among hearing and orally educated deaf children. It was suggested that the diglossic setting of Arabic influenced children's learning abilities by reducing their phonological and morphological skills. Deaf readers needed to develop their dialect awareness skills in order to proficiently map the spoken language of Arabic on to its writing system. |
| 2014 | Al-Osaimi & Wedell | This study investigated the beliefs of 142 students at IITANA (Institute for the Teaching of Arabic to Non-Arabs) in KSA, about learning Arabic. Analysis indicated that the main aim of learning was proficiency in Standard Arabic in order to fulfil roles linked to religious faith. These beliefs were influenced by external contextual factors (in KSA, Riyadh, and ITANA), and by their own purposes, concerns, experiences and existing knowledge. A crucial link between the two emerged in the perceived connection between Arabic and Islam. |
| 2014 | Asaad & Eviatar | 96 Palestinian students were tested and audiorecorded on visual perceptual skill, automatic letter naming, reading and phonological awareness. Analysis indicated that phonological awareness was a strong predictor of text reading accuracy and Arabic diglossia was likely to impede the process of converting graphemes to phonemes. |



| YEAR | AUTHOR | OVERVIEW |
|------|-----------------------|--|
| 2014 | Asadi & Ibrahim | 571 Palestinian students in primary and elementary classes were tested on phonological awareness and results indicated an opposite effect of stimulus. Significant effect of grade was found. Interaction between grade and type of stimulus was observed only in phonemic deletion task. Results supported the notion that effect of lexical distance on phonological awareness depend on modes of stimulus presentation. |
| 2014 | Jamjoom | The researchers completed two studies on 50 primary students in KSA. In the 1st study, story reading and telling sessions were conducted. In the 2nd study over a full school year, children were exposed to either the Nontraditional LA Story Reading (or to the traditional manner of story reading in SA. The results indicated that 19% more words were learned in the Mixed-Model Reading group. The experimental group produced 55% more LA vocabulary words than the control group. There was no significant difference between the total number of words used, but a significant difference in the total number of SA words. The authors suggested that telling stories in SA might have provided a scaffold by exposing children to the story grammar, and allowed them to better attend to the novel aspects of the stories when in LA. |
| 2014 | Kadry and Soliman | The researcher provided listening drills training sessions to 10 L2 Arabic learning university students (from Algiers, Eritrea, Kuwait, Tunisia, Oman, Syria and Iraq) and recorded their conversations. Analysis indicated that dialect familiarity aided comprehension between native speakers of different Arabic dialects and the training helped students achieve better comprehension of cognates in unfamiliar dialects and recognition of morphemes in all the dialects. |
| 2014 | Khamis-Dakwar & Froud | The paper reviewed key language-related ERPs: The Mismatch Negativity (MMN), the N400, and the P600. The authors presented few neurophysiological studies on the representation of the two language varieties in the brain of native Arabic speakers and discussed how innovative use of ERP methodologies could expand current and future research in the area. The review pointed to separateness of the two lexicons in Arabic diglossia and highlighted the need for further neurophysiological and behavioral studies to revisit the suggested model of mental representation in diglossia. |



| YEAR | AUTHOR | OVERVIEW |
|------|----------------------------|---|
| 2014 | Leikin, Ibrahim & Eghbaria | Performance in production and comprehension of 30 Palestinian Arab kindergarten children was tested to examine the influence of diglossia on linguistic and narrative structures. Analysis suggested that children had definite opportunities for mastering LA. Parents and teachers seemed to motivate children to use MSA. Strong correlations between degree of exposure to MSA and number of literary words used by children in a story retelling task were found. Language and narrative competences in LA were significantly poorer than in SA. |
| 2014 | Nader Ali | Data from 70 primary Kuwaiti schoolers was collected at 3 phases, from pre-school, through 1st year 1 and ending at 2nd year. Analysis indicated that only children's phonological awareness predicted reading ability when controlling for age and Verbal IQ. Participants' reading abilities and phonological and visual short term memory improved over time. Children found it easier to read the modern standard Arabic and shared words than the local dialect words. |
| 2014 | Najjar & Jarjoura | An experimental group of 33 Palestinian Arabic-speaking preschoolers, who had their teachers using an e-book, was compared to a control group taught using a book. Comparative analysis suggested that the intervention program through the employment of an e-book improved phonological awareness. |
| 2014 | Nevat, Khateb & Prior | 25 Palestinian university students performed a semantic categorization tasks (in Arabic and Hebrew) while an functional MRI of their brain was taken. Analysis indicated an advantage for LA in, presumably due to participants' proficiency in reading in this language. |
| 2014 | Saiegh-Haddad & Spolsky | Interactions of 96 Palestinian children with peers and teachers during school day were recorded for 2 hours. Results suggested that the most predominant (40.6 %) type of lexical items in Arabic was the class of cognates and that 30.9 % of the words were unique words that had a lexical form in SA but not used in MSA. Finally, only 21.2 % of the words in SA were overlapping words in MSA. |



| YEAR | AUTHOR | OVERVIEW |
|------|---|---|
| 2014 | Saiegh-Haddad & Henkin-Roitfarb | This account of Arabic language focused on topics in the structure and orthography of the language that pertained to literacy research and practice. It described the linguistic distance (which was across all linguistic domains, phonologically, morphologically, syntactically and lexically) between SA and MSA, the primacy of StA linguistic structures in the written form of the language, and the effect of this on several linguistic processes in literacy acquisition. |
| 2014 | Uziel-Karl, Kanaan, Yifat, Meir, Abugov & Ravid | 193 Palestinian adults were surveyed and analysis indicated that Arab SLPs reported more difficulties than Jewish SLPs in all areas. Arab SLPs saw adapting academic curriculum to the Arabic language and culture, training of Arabic-speaking researchers in the field, developing diagnostic and assessment tools adapted to the Arab population, and simplifying bureaucratic procedures as important factors to real improvement in the services provided to the population of the Arab sector. |
| 2013 | Al-Huri | 202 Yemeni students and 31 teachers in secondary level were studied for the impact of diglossia on teaching and learning Arabic. Results suggested that students had a highly positive attitude towards this variety and revealed awareness of MSA significance to be used in the teaching/learning process. Students' weakness to rarely using MSA in class was due to their communication skills and linguistic productivity's deficiency. Academic qualification, competence and years of experience of Arabic course teachers had effective impact on the quality of the teaching/learning process. |
| 2013 | Benkharafa | This argumentative discussion about the challenges Arabic and Arabization were currently facing suggested that, despite awareness of the importance of Arabization, Arabs still found themselves in a similar situation to the colonial era. Additionally, three categories of attitudes towards Arabization were identified: traditionalists, modernists and nationalists. The author highlighted that several organizations have been founded all over the Arab world to deal with the specific problems of modernisation of the Arabic language. |



| YEAR | AUTHOR | OVERVIEW |
|------|---------------------------|---|
| 2013 | Boudelaa & Marslen-Wilson | Of 68 Tunisian students in middle and secondary classes, 36 of them were randomly assigned to the STA experiment and the remaining 32 to the MSA experiment. Findings suggested similar results with strong priming effects for roots and patterns in both varieties. The same obligatory morpho-phonological composition and decomposition processes were at play in Standard and dialectal Arabic. Roots and word-patterns were the relevant domains to which language learning was tuned in both varieties and around which adult language processing was organised. |
| 2013 | Taha | This was a discussion to understand how reading and spelling processes in Arabic were influenced by orthographic and linguistic uniqueness of the Arabic language, and the implications on the acquisition of literacy skills. It was suggested that the specific orthographic features of written Arabic words led toward relying heavily on visual processing skills within the visual word recognition, and that the diglossia highly impacted development of phonological representations of words in MSA at lexical level. |
| 2013 | Tibi, Josh & McLeod | 6 kindergarten children at a calligraphy class in the UAE were studied over 8 months. Teacher and parent were studied as well. The results indicated that children were limited in opportunities to practice and experiment with writing. They felt pressure to erase mistakes. Teachers were using English and Arabic languages without knowledge of the effects of either language on the development of the other and there were inconsistent practices used with regard to diglossia. |
| 2012 | Darwiche Fedda & Oweini | 100 Lebanese bilingual students [L1 Arabic] in primary and elementary classes, their parents and teachers were examined. Analysis suggested that students' Arabic skills were not grade appropriate, especially older students for whom negative effect worsened. Both parents and teachers recognized challenges posed by diglossia but had no reliable strategies. Reform in the Arabic language instruction in the school system was recommended. |



| YEAR | AUTHOR | OVERVIEW |
|------|-------------------------------|---|
| 2012 | Farran, Bingham & Matthews | 83 students in primary and elementary grades in the USA were assessed in both English and Arabic. Results suggested positive partial correlations between Arabic phonological awareness and English phonological awareness, after controlling for chronological age. Arabic phonological skills predicted Arabic word reading and pseudoword decoding. Only chronological age contributed significantly to Arabic reading comprehension skills. Predictors in English were similar to Arabic. |
| 2012 | Faust | The researcher analyzed transcribed conversations of dialogues on a TV program (Al-Jazeera "Open Dialogue") and analysis indicated the weakness of a binary view of language (diglossia/code-switching) and highlighted why a fluid, dynamic and variationist framework was required. |
| 2012 | Khamis-Dakwar & Froud | This was an overview of many dimensions of variation known to be operational for Arab-American communities and their experiences of aphasia and rehabilitative services. The authors advocated for a rigorous, evidence-based approach to assessment and intervention for adults with aphasia. |
| 2012 | Khamis-Dakwar, Froud & Gordon | Forced-choice grammaticality judgment task was administered to 120 Palestinian children at 5 different primary and elementary grade levels. Analysis suggested that children performed better on items presented in SA than in StA (except constructions involving negation) and on items when the two constructions were similar in both varieties. As such, referencing children's knowledge of spoken Arabic in language instruction would likely enhance acquisition of the standard variety, especially for structure acquisition |
| 2011 | Amer, Adaileh & Rakhieh | This paper compared WA (Written Arabic) with MA (Madani Arabic, a dialect spoken in Amman) at the phonological level. Data for WA were drawn from an English-Arabic dictionary, Grammar book, 5 Studies on Arabic Language and other school materials, journal, while data for MA were provided by the researchers themselves and other speakers of the dialect. Many phonological differences were observed between MA and WA such as the emergence of word initial consonant clusters in MA through the omission of short vowels in MA, the omission of word final short vowels in MA, and many other technical differences in vowel. |



| YEAR | AUTHOR | OVERVIEW |
|------|--------------------|--|
| 2011 | Demachkie & Oweini | 46 Lebanese middle and high-school students and teachers were divided into an experimental (teachers had intense training in CSR) and a control group (teachers provided no training) were studied. Results suggested that implementing CSR method and working in groups increased students' self-confidence, communication skills and score in the posttests. |
| 2011 | Gallagher | This was an analysis of language-in-education in Abu Dhabi in bilingualism. The paper concluded that bilingual education was likely to confer linguistic, academic and socioeconomic benefits on future generations of Emirati school leavers. However, acquisition of biliteracy was likely to be challenging because of Arabic diglossia and linguistic distance between Arabic and English. |
| 2011 | Hamam | Analysis of a 96-minute broadcast of a TV debate episode with one Lebanese and two Syrian broadcasters suggested CS vehicles significances of a rhetorical or textual type which allowed internal argumentative structuring of the discourse. Despite their linguistically ideological positions, speakers switched to the code they "fight", mostly for argumentative or rhetorical reasons. |
| 2011 | Hillman | Interactions between 11 adults in a multilevel Arabic language classroom in the USA were studied. Results indicated that humor played an important role in the display and development of learners' individual and relational identities, in the creation of a sense of belonging, and helped develop learners' pragmatic and sociolinguistic competence in the L2. Students revealed a sophistication and sensitivity to differences in dialect and were able to exploit these differences for humorous purposes. |
| 2011 | Ibrahim | 571 1st-12th grade Palestinian students were tested on phonology in both SA and LA in Arabic to assess WM skills. Analysis suggested sensitivity to diglossia was driven by the test language. Memory involvement in meta-lingual performances was driven by the mode of stimuli presentation. Arabic script was found to be harder to identify than English and Hebrew, and that there were large differences in the abilities of the brain hemispheres in letter identification in Arabic, but not in the other languages. |



| YEAR | AUTHOR | OVERVIEW |
|------|-----------------------------------|---|
| 2011 | Mahfoughi, Everatt & Elbeheri | This was an introduction to articles on language processes, phonological processes and orthographic processes. It focused on the less-studied period of early literacy development, from kindergarten to grade 3 and argued that studying literacy acquisition/processes in Arabic could be important for research and theory in general due to the unique characteristics of the Arabic language and its orthography. |
| 2011 | Saiegh-Haddad | Based on this review, a hypothesis was advanced that diglossia challenged acquisition of basic reading processes in Arabic. It was argued that socio-cultural context in which Arabic reading acquisition was embedded exacerbated the impact of phonological distance on reading development with children beginning formal instruction in reading with little knowledge about literacy and print. |
| 2011 | Saiegh-Haddad, Levin, Hende & Ziv | Effect of Standard Arabic versus Spoken Arabic on phoneme recognition was tested among 60 Palestinian Arabic native speaking kindergarteners. Results suggested that children's recognition of StA phonemes was poorer than that of SA phonemes and that children's difficulty in accessing StA phonemes was due to a difficulty in the phonological encoding of StA words. Phonological distance between StA and SA did not support the natural acquisition of basic language and literacy processes in MSA. |
| 2011 | Trentman | A questionnaire and a n audio recording test (in MSA, Egyptian, Lebanese, Tunisian) were conducted on 58 Arabic speakers. Analysis indicated significant positive relationships between comprehension of unfamiliar dialects and both familiar dialect listening ability and MSA listening ability. Authors suggested that knowledge of Egyptian Arabic did not limit understanding to Egyptian Arabic only, but also assisted in understanding of Levantine varieties, and vice versa, and possibly Iraqi, Gulf, and North African Arabic varieties, at least as long as the speakers of these varieties were accommodating towards MSA. |



| YEAR | AUTHOR | OVERVIEW |
|------|----------|---|
| 2010 | Fahmy | Debating whether using MSA exclusively was sufficient to evaluate abilities in Arabic by the Interagency Language Roundtable (ILR) scale, it was suggested that learners must learn one regional dialect in addition to MSA to successfully progress up the ILR scale. The author's position was that students needed to be exposed first to MSA, and then both curriculum and classroom activities would be developed with a combination of both the standard language mixed suitably with a major dialect. |
| 2010 | Gallego | The author analyzed sociolinguistic aspects related to the use of Arabic by Muslims, Jews and Christians of al-Andalus. Results suggested that the linguistic situation of Muslims in Al-Andalus was determined by the role of Classical Arabic as the language of Qur'an, that locals kept their native variety for oral communication and used the Classical Arabic for their new affiliation. In the particular case of al-Andalus, the Christian character adopted as the Reconquest advanced was also a determinant factor for the adoption of a classical Arabic/Andalusi Arabic language distribution. |
| 2010 | Zuzovsky | 3908 students in primary classes in Occupied Palestinian Territories had been analyzed and after controlling for SES factors, achievement gaps in reading literacy between Arabic-speaking and Hebrew-speaking students in favor of the former, although decreased, remained large,. In mathematics and science, less affected by diglossia, the achievement gaps in favor of Hebrew-speaking students disappeared and even reversed. Findings advanced that Arabic diglossia was probably the main cause of low reading attainment. |
| 2010 | Zuzovsky | In PIRLS 2006 analysis, 1193 Palestinian pre-schoolers and primary students were studied. Activities found to be effective for Arabic-speaking students, also found to be more frequent in this sector, were those aimed at fostering phonological and alphabetical awareness before starting school, in 1-1 parent/child tutoring situations, as well as those that combined vocalization of written texts and active engagement in reading in and outside schools. |



| YEAR | AUTHOR | OVERVIEW |
|------|--------------------|---|
| 2009 | Abdulrahman | 150 students in middle schools in the UAE were studied over 8 months. Analysis suggested that UAE culture, Islamic values and studies were top priorities. Officers and ministers focused on programs for spoken Arabic, as well as events and celebration activities with students. The paper concluded that immigrants who developed Arabic and English would benefit in the UAE and would have access to higher education and employment opportunities. |
| 2009 | Brosh & Attili | This qualitative study followed 30 middle and high-school Palestinian students for 3 months. Analysis suggested that difficulty and complexity of Spoken Variety grammar, use of "Middle Language" during lessons, and limitation of SV to only Arabic lessons could be the cause to a decreasing interest in learning the language, unintentional use of SpA lexical items and syntactical structures and significant degree of interference from oral language. |
| 2009 | Cote | 83 university students from the Gulf, Egypt, Morocco, Levant, Iraq and Algeria and professionals at university in the USA were given a map (to label best and worst vernacular arabic) and a list of five major arabic dialects. Participants chose Saudi Arabia as the best vernacular Arabic and Morocco as the worst. No country overwhelmingly dominated in the frequency rankings for preferred language. |
| 2009 | Farghaly & Shaalan | Authors described some of challenges (tokenization in Arabic) and presented some solutions (combining the morphological analysis and tokenization in one process, recognizing patterns of Arabic names, dates, and addresses to improve recall of Arabic entity recognition) that would guide current and future practitioners in the field of Arabic natural language processing. The authors indicated that there were several resources available for the morphological analysis of Arabic, some could generate Arabic verbs, nouns, gerunds, adjectives from their roots. |



| YEAR | AUTHOR | OVERVIEW |
|------|-----------------------------------|--|
| 2009 | Khachan | 290 adult Egyptian females attending 11 literacy classes were group-interviewed. Findings emphasized a diglossic dichotomy, entailing reading and writing categories. The study indicated substantial challenges in relation to programmes accommodating the interests/needs of women (especially under 20 years). The study suggested that attempt to colloquialize standard Arabic might be what adult illiteracy eradication in the Arab world needed. |
| 2009 | Palmer | 94 university students and adults on study abroad programs in Egypt, Jordan, Morocco and Syria were studied. Analysis suggested that the older students, the less they agreed that SCA was more useful than MSA to know in the host country. Students in Morocco spoke more MSA in their free time in opposition to students in Egypt, Syria and Jordan. Additionally, students became more acculturated at the end of the program and the amount of change in proficiency was significantly related to the length of the study abroad program. Finally, students who changed more in acculturation were more likely to change in proficiency. |
| 2009 | Rochdi | 45 Moroccan children with no formal instruction were assigned into an intervention (given 2 different sets of books) and a control group over 3 weeks. Analysis suggested that storybook reading exposure positively impacted word learning capabilities and print awareness development. It significantly affected the quality of parent child interaction but not phonological and print awareness development. Reading enhanced and helped develop some aspects of preliteracy skills. Phonological awareness might develop differentially and as a function of the structure of the native language |
| 2008 | Levin, Saiegh-Haddad, Hende & Ziv | Arabic Literacy acquisition was studied among 145 Palestinian students in the OPT of low SES kindergartners within the framework of an intervention study, implemented by teachers over 7 months each. The results suggested that while the comparison group hardly progressed, the intervention group progressed substantially on all three skills. The diglossic nature of Arabic letter name system was manifested in children's transition from a mixture of 2 systems to preference for StA over Colloquial names. |



| YEAR | AUTHOR | OVERVIEW |
|------|-----------------|---|
| 2008 | Palmer | 14 current and previous students (who studied Arabic and lived in the Arabic-speaking world) were sent a questionnaire around how they relate to and perceive the role of spoken Arabic. Results indicated that students wanted to learn Arabic before traveling to Arabic-speaking world and while learning MSA. There was disagreement about how teaching of SA and StA should take place. |
| 2007 | Hamda & Amayreh | 100 Jordanian middle and high-school students were tested using in articulation. Findings suggested that all consonants of Jordanian Spoken Arabic were acquired. 6 consonants that were not acquired in StA had dialectal forms. |
| 2007 | Sayahi | Data was collected over five years in Tunisia and Morocco and analysis suggested that codeswitching and lexical borrowing in the North African context could be considered a sociolinguistic variable distinguishing between educated and non-educated speakers. Loan words and structural interference from French into Tunisian Arabic, and Spanish into northern Moroccan Arabic confirmed that there had been an accelerated Romance-driven language change in the area, occurring within the low and not the high varieties. |
| 2007 | Saiegh-Haddad | 2 phoneme isolation tasks were administered to 256 primary and elementary students in the OPT. The results suggested that linguistic affiliation of phoneme was reliable in explaining phoneme isolation and that initial phonemes and initial singleton phonemes were particularly difficult for children to isolate. The study indicated that Arab children found initial phonemes and initial singleton phonemes the most difficult to segment. |
| 2007 | Khamis-Dakwar | Grammaticality judgment tasks were administered to 120 Palestinian primary and elementary students. Results indicated that the two factors affecting children's performance on grammatical tasks were familiarity with the language variety, and the linguistic structures and that there was an interaction between the two factors. |



| YEAR | AUTHOR | OVERVIEW |
|------|-----------------------|---|
| 2007 | Khamis-Dakwar & Froud | 5 Palestinian university students were examined on code-switching. Results indicated significant differences in the amplitude of the N400 to semantically anomalous final words in MSA, but not in SA, compared to the control sentences. The authors suggested that MSA sentences incorporated words less familiar, and therefore might elicit larger N400 effects and that N200 effects were variety-specific, providing evidence only for SA toMSA switches. |
| 2007 | Palmer | The paper is based on a survey conducted over two years, sampling of 82 teachers and 650 students from higher education institutions in the USA. The results suggested that students taking Arabic appeared to be highly motivated to learn the language but that teachers had low enthusiasm for the learning of spoken varieties in the first two years of Arabic instruction. |
| 2005 | Dakwar | Interviews with 30 1st, 2nd and 3rd grade Palestinian students divided into 3 groups according to their grade level indicated that they perceived MSA and PCA language varieties as two different systems. Students focused on phonological and lexical differences and did not explicitly report on morphosyntactic differences between Fus'ha and PCA. Research suggested that similarities between Fusha and PCA served positively and assisted children in learning Fus'ha, specifically at the elementary school levels. |
| 2005 | Rabab'ah | 1-1 interview was held with 8 students from one Saudi University and a role-play task was administered, to discover and analyze compensatory strategies used by Arabic speakers as a second language when confronted with problems during communication in Arabic. Compensatory strategies were identified, mostly paraphrasing, restructuring, retrieval, repetition, message abandonment, approximation, coinage and clarification. Their use varied between learners coming from different cultural and educational backgrounds and speaking different native languages. Additionally, role-play tasks yielded more CpSs than role-play tasks. |



| YEAR | AUTHOR | OVERVIEW |
|------|---------------------------------|---|
| 2005 | Saiegh-Haddad | 42 Palestinian students in primary/elementary grades had five measures of basic reading processes tested. The analysis suggested that reading fluency, in a phonemically diglossic context, was not found predictable by phonological processing for MSA phonemes. Reading fluency was found sensitive to both diglossic and orthographic factors. Reading in the shallow orthography of vowelized Arabic seemed to be primarily accountable by the speed of converting graphemes to phonemes, and by memory. |
| 2004 | Donita-Schmidt, Inbar & Shohamy | 692 Palestinian students and 362 parents completed questionnaires. The findings revealed that students who studied SA (experimental group) had more positive attitudes towards Arabic language, its culture, and speakers, and also claimed to be more motivated to study the language. Findings also confirmed the important role of parents over their children's behavior because parents' attitudes constituted one of the predictors of students' motivation to study Arabic. Yet, the variable that best predicted students' motivation was their satisfaction with their Arabic study program. |
| 2004 | Saiegh-Haddad | 66 Palestinian students in primary/elementary grades were administered two phonemic awareness test clusters. Analysis indicated that all children found MSA phonemes significantly more difficult to isolate. Kindergarteners found MSA phonemes embedded within MSA words even more difficult to isolate. The results underscored the role of the lexical status of the stimulus word, as well as the linguistic affiliation of the target phoneme in phonological analysis in a diglossic context. |
| 2003 | Aziz Soliman | 34 university students and teachers in Cairo were studied over 1 academic year. Analysis indicated that pedagogic decisions were influenced by pragmatism, availability of resources, and pressure to finish the syllabus. Intensive program helped students meet their goals. Learners' varied demands were attributed to the diglossic nature of Arabic, and requirements of their university degrees. Resulting frustration could be resolved by encouraging students to integrate ECA learning into their study course in Egypt. |



| YEAR | AUTHOR | OVERVIEW |
|------|-----------------|--|
| 2003 | Saiegh-Haddad | Reading fluency of 50 Palestinian university students was measured. The analysis indicated that there was no significant relationship between oral reading fluency and comprehension in either Arabic or Hebrew L1 reading. Reading fluency was found higher in Hebrew than Arabic (due to Arabic diglossic nature) but no impact on reading comprehension. |
| 2003 | Saiegh-Haddad | 65 Palestinian students in primary/elementary grades were administered phonemic awareness and decoding tasks. The results indicated that linguistic distance between MSA and spoken Arabic interfered with the acquisition of basic reading processes in MSA and that MSA standard phonemes were more difficult to isolate than the spoken ones. Diglossia and the subsequent phonological distance between the two varieties of Arabic was suggested to be related to the decoding ability of young Arabic native children. |
| 2003 | Boussofara-Omar | The study investigated the structural constraints on diglossic switching between MSA and Tunisian Arabic through a linguistic analysis of 17 public political speeches. The analysis suggested that there was no variety conventionalized as a 'third' language, but a pattern of switching between the two varieties of Arabic. The growing practice of switching might eventually give rise to a national spoken standard that could be dialectal in its underlying structure but MSA in its surface realization. |
| 2003 | Thonhauser | 6 multilingual adults in Lebanon were studied for multilingualism and diglossia. The results suggested that the language used in writing did not correspond to the preferred oral language and that the choice of language was according to the situation and communicative purpose, so Arabic was for literature/poetry, English and French for sciences and English for business. |
| 2001 | Whitcomb | In two studies 125 TAFL instructors and 21 Egyptian NS participants, in the USA were studied. The survey indicated that TAFL's treatment of diglossia continued to evolve, partially motivated by ongoing development in its concept of proficiency, and that NSs appeared to consider their language varieties in an integrated fashion. A high level of concern over difficulty of Arabic and desire not to overwhelm students appeared to interfere with the potential effect of the emerging concept of proficiency in TAFL. |



| YEAR | AUTHOR | OVERVIEW |
|------|-----------------|---|
| 2000 | Abu-Rabia | Of 282 grade 1 and 2 Palestinian students, 144 students were exposed to Literary Arabic in preschool (for 2 years) and the rest exposed to Spoken Arabic. Analysis indicated that it was beneficial to expose preschool students to Literary Arabic, and to incorporate it as part of the curriculum, and in teaching development programs. It enhanced reading ability in 1st and 2nd grades students and it mediated the difference between Spoken and Literary Arabic. |
| 2000 | Dickins | This was a description of the history of Arabic language phonology, script, grammar, vocabulary, stylistics, diglossia and teaching trends. It was suggested there were 2 general teaching strategies in relation to diglossia, one involved teaching standard Arabic and the chosen dialect separately, the other teaching them together. |
| 2000 | Thonhauser | This paper included 18 essays, a survey and 6 interviews about individual language use reflecting the multilingual set-up of Lebanon. Conclusions suggested that MSA, learned at school, was considered a distant and difficult second language. Proficiency in reading and writing was a demand for employment. The use of foreign textbooks related with questions on Identity in language and culture. Lebanese students were torn between studying a world language and the fear of losing their native language. |
| 1999 | Boussofara-Omar | Public political speeches by two Tunisian presidents between 1956-1968 were studied. Analysis suggested that the complex interplay between the 2 varieties of languages, mediated through the user that allowed for defiance of fixed boundaries and permeated the so-called middle variety with a sense of fluidity and elusiveness. Analysis of morpho-phonological processes and morpho-syntactic constraints suggested that there was a significant interplay between the 2 in diglossic switching. |



| YEAR | AUTHOR | OVERVIEW |
|------|------------------|---|
| 1998 | Maamouri | Prominent past reform proposals related to Arabic language were presented and assessed. The failure to unify the Arab front, combined with the existence of conflicting ideologies, had barred the way to any legitimate reform to the Arabic language. However, some Arab countries were slowly opening up to the implications of accelerated educational reforms but no policy would materialize unless individual governments decided to act. The linguistic spread of colloquial Arabic in the Arab region would eventually lead to the necessary reform of the Arabic language standards. |
| 1997 | Al-Kahtany | 40 university students from the Arabian Peninsula and 18 outside of it filled out a questionnaire after listening to taped conversations in Damascene Colloquial Dialect. The results indicated that the majority revealed being fluent in MSA. Students had a negative response to standardizing DCA and thereby replacing MSA. Participants rejected using their dialect for instruction and did not view diglossia as a significant problem. |
| 1996 | Ayari | The author debated the impact of Arabic diglossia on children's Arabic Academic attainment indicating that the difference between language varieties was not the only cause for illiteracy and poor academic performance. Lack of exposure to Literacy Arabic (LA) at an early age, it not being the language of instruction, and the graphemic representation of the Arabic alphabet have all negatively contributed. The author suggested that children should be familiarised with the structures, sounds and rhythms of LA during the first years, and the matrix of graphimic forms and introduction of vowels into the Arabic writing system be simplified. |
| 1995 | Brosh & Olshtain | To investigate the implications of diglossia on the order of linguistic skills acquisition in Arabic among 469 Hebrew speaker students in the OPT, students were divided into 2 groups (286 students studied Spoken Arabic SA for 3 years in primary and 183 without previous instruction in Arabic) and tested. The results indicated that SA did not have an impact in grammar and reading comprehension on those who studied it for 3 years. The recommendations were that measures should be taken to use the existent knowledge of spoken Arabic as a springboard into written Arabic. |



| YEAR | AUTHOR | OVERVIEW |
|------|-------------------------------------|---|
| 1995 | Rosenhouse | Reporting on Arabic-speaking Hearing Impaired Children (HIC) in the OPT, the paper indicated that the problems were inter-family marriages, no Arabic-speaking parents' guidance or help, and hardly any official educational institutes for Arabic-speaking HIC at any school level. In teaching, sign language was less preferred for Arabs and questions about its structure, scope of use and which sign system to use remained. Vocational schools would prepare HI for constructive lives as adults were highly needed. |
| 1995 | Wilmsen | Arabic language use among 12 university level theatrical practitioners in Egypt was studied over 4 months with the researcher becoming a member of a production crew and fully immersed into active data gathering and observation. Findings suggested there were three broad varieties of Arabic: Modern Literary Arabic, an Educated Colloquial Arabic, and Dialect. Diglossia in Arabic, at least Egyptian Arabic, was ceasing to exist as a taxonomic variety. |
| 1995 | Youssi | the author discussed the multilingual and multidialectal situations in Morocco and advanced that societal illiteracy was related to societal and economic reasons, and the diglossic varieties, so far apart structurally and semantically. Confronting "communication tensions" between the 2 varieties, resulted in the emergence of "The Middle Language" transforming Diglossia into Trilingualism. |
| 1993 | Feitelson, Goldstein, Iraqi & Share | Palestinian students from 12 primary and elementary classes were divided into an experimental group, where the teacher read a storybook daily for 6 months, and a control group and were tested on listening comprehension. Analysis indicated that effects of listening to storyreading extended beyond children's comprehension skills into their active use of language. The teachers' attitude changed regarding feasibility of reading Fus'ha to kindergarten children. As a result of the children's enthusiasm, parents got interested in reading to children as well. |



| YEAR | AUTHOR | OVERVIEW |
|------|---------------------|--|
| 1991 | Boussalhi | 120 university students and teachers in Morocco were surveyed and analysis indicated an overall consistency between students' and teachers' answers to all common core questions. The situation of the "two forms of Arabic" was considered problematic. Results also indicated prevalence of the 'corrupt' view of MA. Students were reluctant to admit MA influenced their writings but acknowledged MA could be better in some expression. Teachers said that they sometimes use MA, however, unanimously considered the use of MA features by children in an educational context as 'wrong'. |
| 1991 | Ryding | The author considered US officers and government employees, who were instructed in and communicated in a variety of spoken Arabic referred to as ESA (Educated Spoken Arabic). For these officers, ESA provided a linguistic option that is flexible and informal yet good enough not to be stigmatized as vulgar. ESA was primarily a bridge enabling non-native speakers to cross the ravine separating the literary language from the multifarious world of colloquial Arabic dialects. |
| 1987 | Stansfield & Kenyon | This new two-year project by the American Council on the Teaching of Foreign Languages (ACTFL) looked at specific problems with four languages, including Arabic, and aimed at familiarizing LCTL teachers with the guidelines through a series of workshops, and to provide a forum for examining issues involved in adapting them for LCTL use. The paper suggested extending the program to the less commonly taught languages. |
| 1986 | Alrabaa | This discussion on whether diglossia was responsible for high rate of illiteracy in the Arab World and poor language achievement of children in the classroom contended that, although the teaching methods in the Arab school might need revision, it wasn't realistic to place blame on the teaching methods or, indeed, the syllabi alone. Circumstances and conditions of usage were not favourable enough for most persons to internalize the literate language. |
| 1985 | Al-Abed Al-Haq | 286 juries, linguists, and research specialists in Jordan completed questionnaires on Arabicization. Analysis indicated that current trends in Jordan were: 1- 2 subgroups of religious Muslims and Arab nationalists supporting Arabicization 2- 2 subgroups in favor of English and the "Westernized", opposing Arabicization, and 3- a group not aware of the advantages either of Arabicization or of the maintenance of English as the medium of science instruction. |



| YEAR | AUTHOR | OVERVIEW |
|------|------------------|---|
| 1985 | Elgibali | EC and LC levels in 335 conversations/interviews with peer groups, letters, sermons, TV/radio programs and cartoons from newspapers/ magazines were studied. Findings indicated that Cairene and Kuwaiti Arabic had only high and low discrete levels and that colloquial dialects were looked down upon. Language in some settings could start formally and gradually transition to a more mixed or colloquial dialect. It was recommended that language planners would choose H form for instruction. |
| 1980 | Mahmoud | Based on published material in both dialects and StA, the researcher indicated that native speakers of Arabic code-switched and mixed based on context and company, that the written form would not be threatened with displacement and that several Arab countries regarded, mistakenly, the spoken form as equal to illiteracy. The researcher argued that Arab educational systems had not created speakers of StA and needed drastic changes. |
| 1980 | Zughoul | The author discussed diglossia, its historical perspective and presented the results of a panel discussion on the issue. It was suggested that paralinguistic factors (religious, national, and cultural) made the choice of a solution for the diglossic situation in the Arab World limited. The solution suggested was to reinforce the use of Classical Arabic in its Modern Standard form with linguistic reform to make Arabic easier to learn, understand and produce. |
| 1975 | El-Dash & Tucker | This quantitative research investigated the views of 26 university students in speech varieties used in the Egyptian context and their suitability for diverse purposes. Results indicated that they distinguished between the 5 varieties, preferring Classical Arabic for all situations except at home, where English was dominant. It also suggested that Colloquial Arabic was preferred at home by grade school students. |

