

Qualitative Analysis of Spelling Errors in Arabic among Bedouin Elementary School Pupils

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Abstract

Studies explored spelling errors of consonants in the written form of Arabic among the Bedouin pupils of the Negev in elementary school found significantly lower scores for these pupils in comparison with triangle pupils for real word task and for real word recognition task, mainly in the second grade. Also, pupils from the Bedouin sector found difficulty with the representation of emphatic phonemes, and represented them by a similar soft phoneme. In order to better understand the sources of difficulty found in the former studies, this study focused on spelling errors of consonants among Negev Bedouin children through two writing tasks. The results indicate that most of the spelling errors among 2nd graders seem to be primarily phonetic in nature, as a result of confusion between similar sounding phonemes in Arabic. Another source of error seems to be attracted to the diglossic nature of Arabic: native Bedouin speakers are exposed to the Negev vernaculars from birth (L1), and are systematically exposed to the written form of Arabic at school. It is therefore suggested that the effect of colloquial phonology on spelling among diglossic children should be taken into consideration by language teachers as well as by teacher training institutions.

Keywords: Spelling errors, Bedouin, written form of Arabic, Consonants, Emphatic phonemes, Diglossia, Writing tasks

1. Background

The Bedouin minority consists of approximately 250,000 Israeli citizens (Sales, 2012). According to the Central Bureau of Statistics of Israel (2013) about two third of them live in the Negev, the other in several local recognized authorities in north Israel. Several studies among the Bedouin minority in Israel explored the Bedouin dialect of the Galilee in north Israel (Rosenhouse, 1995a, 1995b), and the Bedouin dialect of the Tiyaha in the Negev (Shawarba, 2007) from a linguistic point of view. Henkin (2010) have highlighted sociolinguistic aspects and stylistic variation of the Bedouin dialects of the Negev as well. However, only few studies conducted recently (Fragman 2013, 2014) focused on aspects of language acquisition and specifically the spelling development of the written form of Arabic among Bedouin pupils in elementary schools from a linguistic point of view. This study seems of importance; Several studies focused on education in the Bedouin sector of the Negev (Abu Rabia A., 2001; Abu-Sa'ad, 1991, 1995, 1996, 2004; Al-Haj, 1995, 2003; Dinero, 2002; Elbedour, El-Bassiouny, Burt, and Elbedour 2013; Kräli, 2000) showed poor achievements among the Bedouin pupils, for example in the "Meitzav" tests in Arabic and additional subjects (Rudnitzky, 2012). These studies highlighted the urgent need to improve teacher training in the educational system of this sector (Abu Bader & Gradus, 2010). The existence of illiteracy has also been found in these studies to some degree, even in high schools (Ben David, 1994). According to reports of the Ministry of Education of Israel, severe educational difficulties have been found among Bedouin pupils at school and significantly higher percentage of dropouts from the educational system in comparison with other native Arabic pupils (non-Bedouin) learning in the educational system of Israel, and with the Hebrew sector as well (Ben Rabi, Amiel, Nijm, and Dolev, 2009).

Recently, a quantitative study which explored spelling accuracy in formal Arabic among 2nd, 4th, and 6th grade Bedouin pupils found no significant improvement in spelling accuracy from fourth to sixth grade (Fragman, 2013). In addition, it was found that Bedouin pupils experienced difficulty representing emphatic phonemes in the written form of Arabic, and represented them by a similar phoneme, for example /s/ and /ṣ/, or /d/ and /ḍ/ (for detailed explanation of similar phonemes see: Fragman 2014). Previous studies have related to spelling errors in general and spelling errors of similar phonemes in Arabic in particular among native Arabic pupils explaining them as a result of the diglossic nature of Arabic (Saiegh-Haddad, 2003, 2004, 2005, 2007). Studies have shown that this phenomenon occurs even in the end of elementary school, while full proficiency in the standard form of Arabic may be achieved only at later age (Hamdan & Amayreh, 2007). The purpose of this study was to better understand the sources of spelling errors of consonants among elementary Bedouin pupils by conducting a qualitative study using writing tasks.

2. Linguistic Characteristics of Arabic

Arabic is a Semitic language, and one of the most widely used languages in the world. It is an official language in more than 20 states in the Middle East and North Africa. However, due to immigration processes, Arabic is also spoken among vast communities around Europe and North America. In Israel, it is the second official language, next to Hebrew, and it is also the

mother tongue of 16-20% of the Israeli population (Central Bureau of Statistics, 2013).

The most prominent character of Arabic is diglossia, a phenomenon which had already been defined by Ferguson some decades ago (Ferguson, 1959), or multiglossia, as other claim (Hary, 1996). Spoken Arabic has different vernaculars which vary from one geographic area to another, and all are different from the written form of Arabic. Some spoken Arabic vernaculars include phonemes that are not represented in the standard written system of Arabic. At the same time, some standard phonemes, which have corresponding letters, may be absent from certain spoken vernaculars (Saiegh-Haddad, 2004). In addition, the meaning of words may vary from one vernacular to another. While the spoken vernaculars of Arabic are considered to be the mother tongue of all native Arabic speakers, the written form of Arabic which is systematically learned at school from the first grade is considered as L2 (Ayari, 1996; Ibrahim & Aharon-Peretz, 2005; Saiegh-Haddad, 2003). It is mainly in use in the written media and for formal speech functions, like religious sermons or news broadcasts (Saiegh-Haddad, 2005). It is also the language of the all textbooks at school. Thus, in diglossic Arabic, native Arabic speakers who grow up using the specific spoken Arabic vernacular used by their parents and formally begin to read and write only at school (after some preliminary exposure to the Arabic letters at kindergarten), are challenged by a whole new system which is distinctly different from the spoken system of their home.

The effect of diglossia on linguistic processes, including phonological awareness, reading acquisition and spelling, had been intensively explored over the past years, (Abu Rabia & Taha, 2004, 2006; Saiegh-Haddad, 2003, 2004, 2007). Saiegh-Haddad (2003, 2004, 2007) conducted a series of studies with native Arabic speaking children in kindergarten and first grade. She hypothesized that exposure at early ages affects the phonological representations and determines the access quality to those phonological representations. In her studies she concluded that novel phonological units which are not available to children from their L1 vernacular are harder to process than those available to them from their mother tongue. Her findings highlighted specific difficulties among native Arabic children with processing of novel phonological structures which were only available in Standard Arabic as opposed to structures which were familiar to them from their L1 vernacular. In his studies, Taha (2006, 2008) highlighted the importance of the mutual relationship between the lexical orthographic representations and the phonological abilities, and the effect of one to one phoneme-grapheme correspondences in Arabic in performing spelling task. He showed that the one to one phoneme-grapheme correspondences in spelling of the majority of the written Arabic words enable the native Arabic pupils to use their pre-school knowledge about the orthographic pattern of the Arabic written system. Accordingly, Taha (2006) concluded that familiarity with the orthographic patterns of written Arabic words affects the phonological representation of such words. It is noteworthy that several phonemes in Arabic are considered as emphatic. They are phonologically similar to other "soft" phonemes (Taha, 2013), for example the emphatic phoneme /d/ (ض) which is considered as emphatic to the soft phoneme /d/ (د). Taha indicates that this phonological similarity between the emphatic and the non-emphatic phonemes produces spelling inaccuracy (spelling errors) in spelling words that include one emphatic phoneme or more, and concludes that spelling words that contain those emphatics demands proficient spelling abilities and a strong establishment of the mental

orthographic lexicon. Research on spelling error analysis among native Arabic-speaking pupils in grades one through nine found that the most prominent types of spelling errors across grade levels were phonetic, representing 50% of all errors (Abu-Rabia & Taha, 2004, 2006). Further, Abu-Rabia & Siegel's (1995) study of spelling in trilingual native Arabic speaking eighth graders reported confusion between short vowels and long vowels; errors in writing words that combined two similar sounds, such as /s/ and /š/ or /t/ and /ṭ/; errors in writing words as a result of homophones; and errors in writing four syllable words.

In addition to the diglossic nature of Arabic, there are several unique characteristics of Arabic orthography. The Arabic writing system is primarily consonantal. 28 letters of the Arabic alphabet represent the 28 consonantal phonemes of the written form of Arabic. Three of these letters also carry a double function and represent long vowels in some cases. Short vowels are optionally represented within consonantal graphemes by diacritic vowel marks above or below the body of the word. The short vowels also carry case-marking at the ends of most nouns in the written form of the language. Vowelized Arabic is considered shallow orthography, and unvowelized Arabic is considered deep orthography (Abu-Rabia & Taha, 2006). Skilled and adult readers are expected to read unvowelized texts. This demands heavy reliance on context and other resources (Abu Rabia, 1999). Further, several letters (graphemes) share the same form and are distinguished only on the basis of the existence, location and number of dots, which are an obligatory part of 15 letters. Thus, the fact that similar graphemes represent different phonemes, and at the same time different graphemes represent the same phoneme, makes grapheme-phoneme correspondences quite complex in Arabic. In addition, 22 letters are represented by multiple shapes. They are connected with the former and the subsequent letter in the same word and are written differently according to their placement in the word. The other six letters can be connected only with the former letter within the same word. They are also written with slight difference according to the preceding letter (Ibrahim, 2013). In addition to the diacritics for the three short vowels, there are additional reading signs that contribute phonology to the Arabic alphabet (for a summary, see Abu-Rabia, 2001, 2002; Elbeheri & Everatt, 2007; Taouk & Coltheart, 2004). Thus, the complexity of the visual information which is expected from the reader to process demands heavy reliance on visual processing besides the phonological processing. According several studies (Abu Rabia, 2001, 2002; Abu Rabia & Siegel, 1995; Abu Rabia & Taha, 2004, 2006; Azzam, 1993; Bentin & Ibrahim, 1996; Eviatar, Ibrahim, and Ganayim, 2004; Ibrahim, Eviatar, and Aharon-Perez, 2002), this linguistic burden of the Arabic orthography which is created by additional orthographic information in Arabic, as compared with other orthographies, such as Hebrew orthography (Azzam, 1993; Eviatar, Ibrahim, and Ganayim, 2004; Ibrahim, Eviatar, and Aharon-Perez 2002), and English orthography (Eviatar & Ibrahim, 2004), plays a significant role in the acquisition of the written form of Arabic, and may cause a delay in the literary development and in the ability to achieve automatic reading (Ibrahim et al., 2002; Eviatar, Ibrahim, and Ganayim, 2004; Ibrahim & Aharon-Peretz, 2005). Bentin and Ibrahim (1996) found that reaction times for visual recognition of Arabic words by senior high school native Arabic skilled readers were longer than reaction times for Hebrew words by native Hebrew high school seniors, English words by native English undergraduates, and Serbo-Croatian words by native Serbo-Croatians undergraduates (Frost,

Katz, & Bentin, 1987). It was also found that letter recognition process is faster and more accurate in Hebrew (L2) than in Arabic (L1) among bilingual native Arabic adults (Abu Rabia, 2001). Other studies reported that the reading process in Arabic among native Arabic skilled readers is slower than the reading process in Hebrew among native Hebrew skilled readers (Azzam, 1993; Ibrahim, Eviatar, and Aharon-Perez, 2002). Trying to better understand the linguistic features that affect the reading process in the written form of Arabic, a recent study by Taha, Ibrahim, and Khateb (2013) among native Arabic skilled readers found that time reaction for connected as opposed to non-connected word did not present a challenge among the population tested. Examining the contribution of phonological processing, naming ability, and visual processing skills among 6th grade native Arabic readers, Taha (2008) found that the visual processing skills succeeded to predict significantly the accuracy in reading isolated words beyond the significant contribution of the phonological processing skills. According to those findings, Taha suggested that both reading and visual word recognition in Arabic depend on sufficient visual processing skills beyond the phonological skills.

3. Research Aim and Research Questions

The present study set out to examine spelling errors of consonants in the written form of Arabic among native Arabic speakers from the Bedouin sector in the Negev learning in the second, the fourth, and the sixth grades, by conducting a qualitative error analysis. Based on previous studies among native Arabic pupils (Abu-Rabia & Siegel, 1995; Abu-Rabia & Taha, 2004; Saigh-Haddad, 2007), it was hypothesized that Bedouin pupils in elementary school would have difficulties with spelling consonants that represent phonemes that are novel and do not exist in their spoken vernacular, for example the word /qahwah/ (coffee) in the written form of Arabic (*fushā*) is pronounced /gahwah/ by native Bedouin speakers. While previous study by Fragman (2013) found no significant improvement in spelling accuracy from fourth to sixth grade, with specific difficulty representing emphatic phonemes, it was hypothesized that there would be general improvement in spelling accuracy from second to fourth grade, and from fourth to sixth grade, except for representing emphatic phonemes, which pupils at all grades tend to represent by the similar phoneme /s/.

4. Method

4.1 Participants

The study included a sample of 70 elementary school pupils from second (N=26), fourth (N=24), and sixth (N=20) grades, boys (N=32) and girls (N=38), learning in two recognized Bedouin local authorities in the Negev. The schools are considered to be of average socio-economic background based on an index determined by the Israeli Central Bureau of Statistics (Central Bureau of Statistic, 2013). Pupils with learning disabilities of any kind were excluded from the sample.

4.2 Tasks

This study included two experimental tasks that were created for the study: semi-structured writing assignment, and picture story writing assignment.

4.2.1 Semi-Structured Writing Assignment

In this task a short story written in *fusha* was read out loud twice by a native Arabic speaker who accompanied the researcher. The pupils were instructed to write the story they heard in their own words. The story had been taken from a new second grade text book (at the time) approved by Ministry of Education (Al-'arabiyya Luġatuna, 2010) in order to assure that the pupils had not learned this story at school beforehand. This task is based on a similar task used by Puranik (2006) to explore the development of writing among elementary school pupils. The purpose of this task in our study was to explore spelling development among native Bedouin Arabic elementary school pupils over time, from second to fourth grade, and from fourth to sixth grade. Reading aloud the story was meant to give the pupils a trigger to perform the writing assignment only.

4.2.2 Picture Story Writing Task

In this task the pupils were asked to describe whatever they thought had happened according to a picture presented to them. Like the previous writing assignment, using the picture in this task was only meant to be used as a trigger to perform the task and to write in Arabic. The picture in this task was selected after consulting two native Bedouin teachers living in the villages where the study took place and teaching in elementary school over five years.

4.3 Procedure

This study was conducted with the permission of the Ministry of Education Chief Scientist's Office. Data were collected towards the end of the school year by the author in the second, fourth, and sixth grade classrooms. Instructions were given in Arabic, the pupils' mother tongue, by a native Bedouin speaker who accompanied the researcher. Testing took one lesson of 45 minutes in each classroom.

5. Results

This study explored spelling errors of consonants among second, fourth, and sixth graders from three elementary schools in two local authorities of the Negev Bedouin population through two writing tasks: semi structured writing task and picture story writing task. It should be noted that for the purposes of this quantitative analysis, the number of errors for each grade and for each task was not recorded and was not compared, because the main purpose of this study was to explore the nature of spelling errors (in other words, what kind of consonantal errors do they make). Also, it seemed to us that pupils in the 4th and 6th grade performed the writing tasks much more quickly than 2nd graders, for whom both assignments seemed much more challenging. Some of the pupils in 2nd grade wrote only a few words, of one sentence. Some 2nd grade pupils seemed to lack of the knowledge how to organize their writing on a sheet of paper, for example one of the pupils wrote one word for each row. Therefore, a qualitative analysis seemed irrelevant for this study. Hereinafter, spelling errors will be presented according to grade, and not according to tasks. As mentioned earlier, both tasks were mainly used as a trigger for the pupils to perform the writing assignments, in particular among 2 grade pupils who produced much limited data for each task. Also, we could not find significant differences between the writings for each task. Therefore, we preferred to present the spelling errors according to age/grade only. During the qualitative

analysis process, we focused on spelling errors of consonants, which was our prime aim for this study. However, we could not help noticing additional prominent linguistic errors which will be briefly presented as well. Yet, we believe that further study is needed to explore the development of those linguistic errors in more depth.

Consonantal spelling errors were mainly found among second grade pupils, boys and girls, in both tasks. Similar to the results reported in previous study (Fragman, 2013), Bedouin pupils spelled incorrectly the letter ض (/d/) which is pronounced as the emphatic phoneme /z/ (ظ) in Bedouin dialects, probably as a result of L1 interference, for example *صالحوا بعضكما والى ظربتكما* /šālihū baʿz̄kumā waʿillā ẓarabtukumā/ "make peace with each other or else I hit you," *قالى بعضهم اسف* /qāli baʿz̄uhum ʿāsif/ "one of them said: I'm sorry." In addition, pupils were using the letter /d/ (د) which is pronounced as a similar soft phoneme to emphatic phoneme /z/ (ظ) instead of /d/ (ض), for example *بعض تذبو او عكم* /baʿd taḏribū ʿawʿakum/ "I'm warning you, stop fighting," and in the word *يركذ* /yarkuḏu/ "run" as well. Further, spelling errors were also found among pupils in the second grade who wrote the letter /s/ (س) which is pronounced as a soft phoneme instead of the emphatic phoneme /s/ (ص) for example in the sentence *يريد أن يحسل على ذهب* /yurīdu ʿan yaḥsula ʿala ḏahab/ "he wants to have gold," and vice versa, for example *قال في نفسه* /qāla fī nafṣihi/ "said to himself." In another sentence, *ساخ الملك* /sāxa al-malik/ "the king screamed" the second grade pupil confused soft phoneme /s/ (س) with emphatic phoneme /s/ (ص) but also wrote /x/ (خ) instead of /h/ (ح). Confusion between /h/ (ح) and /x/ (خ) among pupils in the second grade can also be found in the sentence *أحب إخواني* /uḥibbu ʿiḥwānī/ "I love my brothers". Pupils were also confusing /k/ (ك) and /q/ (ق), for example in the word *ينكتل* /yatakattalu/ "fighting." Similar spelling errors were also found among pupils in the fourth grade, but to a much lesser extent, for example *الولدان يضربان بعدهما* /al-waladāni yaḏribāni baʿduhumā/ "the children are hitting each other." In this sentence, the pupil confused the letter /d/ (د) which is pronounced as a soft phoneme with the letter /d/ (ض) which is similarly pronounced, but as an emphatic phoneme. In another word, a fourth grade pupil wrote *لمص* /lamaṣa/ "touched" instead of *لمس* /lamasa/, using the letter /s/ (ص) which is similarly pronounced to /s/ (س), but as an emphatic phoneme. In the word *ينضرو* /yandurū/ "watching" the fourth grade pupil confused /d/ (ض) with /z/ (ظ) (which are both pronounced /z/ (ظ) in Bedouin dialects). Similar confusion between /d/ (ض) and /z/ (ظ) was also found in the words *يذبو* /yazribū/ "hit", and *مع بعضهم* /maʿa baʿz̄ihim/ "one another." Also, confusion between /t/ (ت) and /t/ (ط) was found in the word *طخت* /ṭaxṭ/ "bed," and confusion between /k/ (ك) and /q/ (ق) was found in the word *يكتلان* /yaktulāni/ "fight." Spelling errors of consonants were hardly found among pupils in the sixth grade.

Although the main focus of this study is spelling errors of consonants, it is noteworthy that pupils from all three grades were also writing spoken words instead of their acceptable counterparts in the written form of Arabic, for example *الولد زعق* /al-walad zaʿag/ "the boy shouted," (second grade). Here we can also see use of the phoneme /g/ instead of /q/, in the local dialect the word is pronounced /zaʿag/) instead of *الولد صاح* /ṣāḥ al-walad/; *الثاني معط الولد* /al-tānī maʿaṭ al-walad/ "the boy is pulling his friend's hair," (second grade) instead of *يشد الولد* /yašiddu al-walad/; *الأولاد يطاوشوا* /al-ʿawlād yuṭāwišū/ "the children are fighting" (second grade) instead of *الأولاد يتشاجروا* /al-ʿawlād yatašājarū/ (also, the verb is written after the subject as a result of L1 interference); *الولد وجع جدن جدن* /al-walad wajiʿa jiddan jiddan/ "It

hurt him very much" (second grade) instead of تألم الولد كثيرا /ta'allama al-walad kaṭīran/; خذ هذا الدواء عشان يطيب جدن /xuḍ hāḍa al-dawa ʿašān yaṭību jiddan jiddan/ "take this medicine to cure [the king] completely" (second grade) instead of خذ هذا الدواء كي يشفي تماما /xuḍ hāḍa al-dawā' kay yašfī tamāman/. In the latter example there is Standard Arabic lexicon use (/jiddan/) spelled wrongly, but also inappropriately used, as /jiddan/ is syntactically inappropriate with yaṭību or yašfī; ودا عدكتور /wadā ʿaduktūr/ "he took him to the doctor" (second grade) instead of أخذته الى الطبيب /axaḍahu ʿila al-ṭabīb/; المعلم سأل وين عمرو قالو لا ندري /al-muʿallim sa'ala wēn ʿamru qālū la nadrī/ "the teacher asked: where is 'Amru? They answered: we don't know" (fourth grade) instead of سأل المعلم: أين عمر؟ قالوا: لا نعرف /sa'ala al-muʿallim: ʿayna ʿamr? qālū: la nadrī/; المعلم يعزل بينهم /al-muʿallim yaʿzilu baynahum/ "the teacher separates between the kids" (sixth grade) instead of يفصل المعلم بينهم /yufaṣṣilu al-muʿallim baynahum/; الأب اجة /al-'ab 'aja/ "father came" (sixth grade) instead of جاء الأب /jā'a al-'ab/. The use of the verb here is interesting as in this dialect "came" is /jā'/. This seems to be an effort to elevate the language, but the form chosen by the sixth grade pupil is a more prestigious dialect (urban); صارة خناقة كبيرة /ṣārat xināqa kabīra/ "a big fight erupted" instead of حدث شجار كبير /ḥadaṭa šijār/. It should also be pointed out here the use of *ta marbūta* (ة) which is the feminine marker for nouns, in a verb.

6. Discussion

This study explored spelling errors of consonants in the written form of Arabic among native Bedouin Arabic speaking second, fourth, and sixth graders through two writing tasks.

Difficulties with the acquisition of the written form of Arabic amongst native Arabic speakers found in previous studies have been attributed to either phonological or to orthographic difficulties (Abu Rabia & Taha, 2004, 2006; Saiegh-Haddad, 2003, 2004, 2007). Saiegh-Haddad (2003, 2004, 2005, 2007) who conducted a series of studies with native Arabic speaking children in kindergarten and first grade had already found that phonological units which are not available to children from their L1 vernacular are harder to process than those available to them from their mother tongue. Further, Abu Rabia and Taha (2004, 2006) reported that 50% of all errors were phonological among native 1st to 9th Arabic graders. Taha (2004, 2006, 2008) also showed the importance of phoneme-grapheme correspondences knowledge in spelling of the majority of the written Arabic words. This, in turn, enables the native Arabic pupils to use their pre-school knowledge about the orthographic pattern of the Arabic written system. Yet, other studies highlighted the visual complexity of the orthographic system in Arabic (Abdelhadi, Ibrahim, and Eviatar, 2011; Azam, 1993; Bentin & Ibrahim, 1996; Frost, Katz, and Bentin, 1987; Ibrahim & Eviatar, 2012; Ibrahim, Eviatar, and Aharon-Peretz, 2002, 2007) as a substantial factor that affects the reading process and spelling accuracy. Research on spelling development among other languages than Arabic suggested that the acquisition of accurate spellings is a life-long process (Bruck & Treiman, 1990; Kemp, 2009), for example in English (Caravolas, 2005; Harris & Hatano, 1999), German (Wimmer & Landerl, 1997), and Danish (Juil & Sigurdsson, 2005). Other studies suggested that the depth of the target orthography affects the acquisition of the written form of the language (Seymour, Aro, and Erskine, 2003). Whereas Arabic has both a shallow and a deeper form, studies explored spelling accuracy in Arabic suggested that even after several

years of exposure to the written form of Arabic native Arabic pupils in elementary and junior high school still have difficulty with correct spelling. As shown in previous studies (Abu-Rabia & Siegel, 1995; Abu-Rabia & Taha, 2004, 2006), the results of this study also show that most of the spelling errors seem to be primarily phonetic in nature, for example the confusion between /z/ (ظ) and /d/ (ذ) or /d/ (ض), /k/ (ك) and /q/ (ق), and /s/ (س) and /ʃ/ (ص). This result supports the results of previous study which found difficulty in representing emphatic phonemes in the written form of Arabic among Bedouin pupils in elementary school, representing them by a 'similar' phoneme, such as /s/ instead of /ʃ/ (Fragman2013). Yet, additional spelling errors, such as the confusion between /h/ (ح) and /x/ (خ) cannot be stated as phonological driven or orthographical according to this study. Further, unlike Latin orthographies where children are already expected to pass from the phonological stage to *transitional* and *correct* stages at younger age (Gentry, 1982), it was further claimed that the phonological stage of spelling in Arabic does not seem to end even in the end of junior high school, and that full proficiency in the standard form of Arabic may not be achieved even by Arabic speaking secondary school students with mean age of 17-18 (Hamdan & Amayreh, 2007).

In conclusion, spelling errors among native Bedouin Arabic pupils can be attributed to the fact that children who use one sound in their home dialect have to learn the specific contexts in which they have to shift from their L1 phonological inventory to the standard L2 form (written form of Arabic), and that rates of accuracy can be influenced by their phonological presence or absence in the spoken L1 (Hamdan & Amayreh, 2007). Moreover, the delay in spelling development should be accepted as a common phenomenon that occurs mainly among young children in diglossic societies which are daily exposed to the spoken nonstandard vernacular dialect (L1). Based on the assumption that spellings are speech-based, as children rely on speech-based representations (Treiman, 1993), it should be taken into consideration that exposure to the colloquial phonology affects spelling and the kinds of errors made by the diglossic children (Jalil & Rickard, 2008). Yet, specific attention should be given by teacher training institutions mentoring language teachers to pedagogical implications of this phenomenon in order to improve spelling accuracy as a basis for literary acquisition that is needed for future education in higher grades.

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