

Current state of knowledge and theories on second language reading

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ABSTRACT: There is a thorny controversy regarding defining second language (L2) reading based on the required levels of interacting with the decoded texts and including theories that could prevent or facilitate the L2 process. This research attempts to fill the gap through providing a comprehensive analysis to the current state of knowledge and theories on second language reading; schema theory, orthographic depth hypothesis, socio-cultural theory, as well as influence from prior educational experiences, the concept of common underlying proficiency, and cross-language interference. Understanding such second language reading-related theories and hypotheses could enhance redirecting the attention to more practicality and reliability in the field as well as justifying insufficient learning outcomes of second language reading; dedicated particularly to Saudi EFL learners.

KEYWORDS: schema theory; orthographic depth hypothesis; socio-cultural theory; common underlying proficiency; cross-language interference

1. Introducing English in Saudi Arabia

The main purpose of human language is to communicate, directly or indirectly. Direct communication could be through using language as a tool to receive and produce thoughts and semantic messages; the indirect way of communication could be through reading the written discourse. However, it is a fact that knowing another language besides the native one could increase the individual's ability to understand the world and enlarge his/her mental conceptualization due to sharing or receiving new knowledge. This knowledge that the second language is exposed to, could be educational, cultural, or any other sort of knowledge that could help construct intellectual open-minded personality. To be part of the world, especially an effective part means to interact with the rest of the world, to be able to share ideas, to be able to understand the global means of communication; that is the English language. It is widely known for the English language to be associated with universal communication in multiple levels, politics, business, industry, and so forth. On the individual level, it is natural to easily communicate in English in most parts of the world. Decision makers in Saudi Arabia in the field of education knew this reality and paid special attention to teaching English in school. In 1927, was the first adaptation of English at an intermediate level; grades 7 to 9 (Al-Roomy, 2013). Teaching English in Saudi Arabia will be thoroughly covered in the next paragraphs.

2. Teaching English in Saudi Arabia

The Saudi school system is gender separated and has three levels 1) elementary; grades from first to sixth, 2) intermediate; grades from seventh to ninth, and 3) high school; grades from tenth to twelfth. The assessment followed in the three levels in Saudi Arabia is primarily based on examination and the students are considered to pass if he/she received fifty percent of the final scores in each course (Al-

Roomy, 2013). Regarding English in Saudi Arabia, it was first adopted at the elementary level as previously mentioned in 1927, and 2005 in intermediate school (Al-Qahtani, 2010). At high and elementary levels, English is taught four to five times, 45 minutes a week while at the intermediate level is taught twice a week, each period is 45 minutes (Al-Qahtani, 2010).

Teaching English reading in the Saudi context has several layers that can offer an understanding of the poor reading level of Saudi students in English. These layers or components are divided into the following paragraphs in a way that hopefully provides further details in understanding such reading deficits. These consist of the teacher and curriculum as the only source of knowledge, as well as how these components construct student identities. And also, how these components could be constructed and transferred to attribute to poor reading in English.

The teacher in the Saudi context is the only source of knowledge, and this knowledge depends on what the teacher thinks would be beneficial for students. However, the teacher seems to lack training and most of the time unable to teach effectively. Through looking to even Arabic courses, the teachers assess and evaluate the surface level of understanding in a way that helps the students to pass the exams. The teacher virtually doesn't provide students with the opportunity to discuss or negotiate the knowledge. Specifically, in a reading lesson, the teacher asks some students to volunteer to read the given passage, if there are no volunteers (as it is usually happening) the teacher then picks a student to read the passage in a loud voice. Then, the teacher asks the students to answer the questions that are related to the reading passage, and this takes place after translating the passage as well as the questions. Doing so encourages the students (a little bit) to participate in a way they look for participation grades, although their participation is passive and depends on the bottom-up method (lower order operations).

The teacher, most of the time, gives himself the right to punish the students verbally if they are unable to answer correctly. This negative act from the teacher causes students to remain silent even if they have the right answer, this causes the student to have anxiety and hesitation about knowledge. In the end, the students after such cumulative negative input, are demotivated about learning, and have negative attitudes about being a student. After receiving similar teaching, the Saudi student builds their perspectives toward knowledge, and toward English reading in particular, to be following the teachers' instructions. However, following the teachers' instructions (that are most of the time focused on lower cognitive skills such as decoding new words) causes the student to perceive and conceptualize that the main purpose of learning is surface, without any effective role for the students. The students are not participating effectively in constructing the knowledge, and they are even not permitted to use higher cognitive skills such as synthesis or criticizing. Students merely receive the knowledge as a storage of information.

The students' main goals during their learning, are looking to make their teachers satisfied, and to get higher grades in the course. In looking deeper at those two points, someone can understand how difficult it is for Saudi students to change their conceptualization about learning in the US context for example. This long process of the Saudi educational context formulates that Saudi learners are dependent on an external source for guidance. Through looking at the results of the long years of teaching in a Saudi context in a teacher-centered classroom, it is noticed that most Saudi students look at themselves as marginalized while learning a second language. Especially when someone looks at the idea that they expected the teacher to give some directions ceaselessly which is unexpected in the American context. In most of the educational contexts in America for example, the learner is expected to be independent in selecting the research topic and following the best methodology for him/her during achieving such a class project, although there is some minor guidance received from the instructor.

One of the main concerns for Saudi students that could be attributed to poor reading in English is looking to meet the expectations of the teacher in the Saudi context. However, the expectations of the teacher in the Saudi context, especially, in English reading class, are memorizing the new words, answering the reading questions according to the teacher's translation, and then remaining silent for the rest of the class period. However, when it comes to measuring the English reading of Saudi students, the measurements heavily depend on vocabulary knowledge. This can offer some insight to understand why Saudi students most of the time have poor reading in English. To sum up, Saudi students follow their prior educational behavior, which primarily focuses on the surface, lower-order thinking skills.

3. Current research: Proposed reasons for Saudi poor reading in English

Although teaching English in Saudi Arabia received much attention from the decision-makers in Saudi Arabia, Saudi students still have insufficient competency in L2, especially when it comes to reading in English (Al-Karroud, 2005; Al-Qahtani, 2010; Al-Roomy, 2013). It is proposed that Saudi learners of English have poor language ability and this could be attributed to a lack of overall motivation (Nezami, 2012). Some other studies examined the reasons that can justify such poor language skills of Saudi ESL/EFL, specifically in reading, and they came up with some possible ones that can be associated with; the student, the teacher, the curriculum, and the teaching method (Al-Mansour, 2009; Gawi, 2012). Alshammari (2021; 2022) also explored the underlying reasons for the low reading performance of Saudi EFL learners. He also tried to examine concise possible practices in developing learners' overall performance.

Generally speaking, the students have a cumulative conceptualization to associate proficiency in whatever course with higher scores, which could be attributed to the large amount of examination they are exposed to during their study in Saudi Arabia, which can cause them to link English to merely pass or fail. So, teaching can be identified as test-driven as it is described by Mustafa (2002). English Teachers in Saudi Arabia also, play a role in causing the Saudi learners to be poor readers of English due to the insufficiency in their teaching that most of the time follows the traditional view of learning; drilling. Generally speaking, English teachers in Saudi Arabia lack professional and effective teaching skills (AL-Hazmi, 2003). It can be said, that education in Saudi Arabia is teacher-centered where the students are not given sufficient opportunities to be active learners.

It might be summarized that the Saudi students were taught to be merely a storage of knowledge that the teacher gives during the class period, and the students were asked to recall this knowledge in the examination. From this perspective, language proficiency is identified based on the learners' ability to receive and recall the given knowledge, and not on the cognitive ability to understand, comprehend, and synthesize the receptive amount of knowledge. This, along with other reasons, causes Saudi students to be inactive readers in Arabic as well as in English. Yes, they can successfully decode the text, but they most of the time far from successfully comprehending the ideas of the text. They are more frequently unable to scan, skim, summarize, or adopt reading-fast strategies. Specially, when we look at the standardized tests that measure English proficiency such as the American TOEFL and British IELTS, we notice that Saudi students have pretty much poor reading scores. Saudi students are described with the lowest reading level worldwide (Al-Qahtani, 2016).

Arab nations are less likely to be motivated to read, they have poor reading behavior even in their native language, and they seem to not read sufficiently in Arabic. This low tendency toward reading might be transferable to their English. Al-Nujaidi (2003) suggested that Saudi learners seem to lack the tendency to read in both; their native and second language.

4. Schema theory

Schema theory is a prominent reading theory, even though it originated as a general schema theory. Gaffney and Anderson (2000) switch the attention to different terms that were used recently instead of the schema theory, some of which are prior knowledge, previous knowledge, and existing knowledge. From these alternative terms, the definition of the schema theory becomes apparent. The schema theory according to Kant (1958), who was looking for Schema theory beyond reading, is represented by the outcomes of interacting external stimuli and internal comprehension of stored knowledge to see or interpret the new reality. Saito (1996) introduces a new cognitive dimension to the schema theory that is represented by the implementing memory.

Implementing memory is important to figure out to what level the newly processed input is manifested and stored in the human brain. Memory studies in this regard are going to help in figuring out to what level this new stored knowledge is going to affect the new treatment of new inputs. McVee et al. state that it was common during the 1970s by some cognitive scientists who tried to find out the effects of the schemas on reading (2005). Another closer intervention of schema theory to the reading skill was introduced by Rumelhart and Ortony (1977) who look at schema as data reservoirs that approach the concepts in readers' minds. However, McVee et al. (2005) refer to the overflowing of the social-cultural theories over the schema theory in many current studies since the social-cultural theory is more comprehensive by including the social factors.

The importance of the social factor as an effective factor that deals with human minds away from the automation of brain processing abilities. In this regard Bruner refers to the fact that the human brain can come up with certain live functions, such as desiring, thinking, dreaming, etc. (McVee et al., 2005). Before moving to the other theories, it is important to mention that the schema theory is still used and implemented today as an effective reading theory.

Saudi difficulties in English reading and schema theory

Saudi students' difficulties in English reading could be interpreted by associating their background knowledge. The background knowledge of these Saudi learners could offer some explanations for causing them to conclude with poor reading or insufficient reading proficiency. Specifically, when we look at their ability to read in language standardized tests such as TOEFL, we notice that they are exposed to different settings of reading measurement as well as readings with unfamiliar topics. Saudi readers in this new situation could consult their lower-level skills in decoding the text and trying hard to respond to the given questions on readings in the given limited time, where most of the time they found themselves struggling with their encountered difficulties. Their difficulties start from their inability to recognize some words in the texts and since then they rely on their available schemas to help them make predictions and guesses about the texts. Although they can understand, or comprehend the word-level meaning, they cannot still associate the known words into broader cognitive levels to extract the meaning of the writers. Specifically, when we look at the unfamiliar topics presented in TOEFL, to some extent, it is justified that the word recognition level does not necessarily reconstruct the meaning from the text in such standardized tests. Rather, the Saudi learners depend on their background, which supposedly helps them but instead causes them difficulty.

5. Orthographic depth hypothesis

This hypothesis refers to consistency between the written letters and their pronunciations. Koda (1995) states that the learners of a new language may transfer their reading strategies of L1, which in many cases contradicts the orthography of the target language, which results in many reading difficulties.

Schmalz et al. (2015) distinguish between deep and shallow orthography. The deep orthography refers to the diversity of written and spoken words, while the shallow orthography refers to the similarity to some extent between written and spoken words. Thus, the struggle can be found in both groups, those who come from shallow orthographical backgrounds, and those who come from deep orthographical backgrounds. Regarding the depth levels, Katz and Frost (1992) classify them into three levels, which are simple, consistent, and complete. Baluch and Besner (1991) assert that the difference in the orthography between two languages has a negative psychological impact on learners.

However, in some cases, learners do not struggle with new deep orthography because it is a simple depth level. Roman and Pavard (1987) examined some Arab students and found out that most Arabic readers of the English language struggle even with the speed of moving their eyes over the text to grasp words. The cause of such delay in their reading is attributed to the differences between the orthographies of English and Arabic. Most studies in this regard focus on comparing the orthographies in two new languages. Compared to the previously discussed schema theory, the orthographical depth hypothesis focuses on the effects of transferring written symbols into phonemes; while the schema theory includes the effects of previous knowledge and stored interlanguage competence on the reading difficulties.

Orthographic depth hypothesis and Saudi difficulties in English reading

This important hypothesis that is proposed by Cummins, provides some justifications for difficulties Saudi students encounter during their reading in English. When we look at Arabic orthography, we notice that it is cursive and partially shallow. On the other hand, we look at the English and see the Roman alphabet as well as deep orthography. These features of deep orthography for readers during decoding the text would cause a longer time to process the grapheme-phonemes as well as difficulty in understanding the word in the lexicon. The unfamiliarity of the orthography may cause the reader to be distracted in two directions at the same time, whether trying to decode the graphemes or trying to comprehend. So, this process seems to present a conflict between the lower and higher cognitive skills of reading. Especially, when we look at Saudi readers of English, we find that they need more time to move their eyes on a certain amount of graphemes.

This difficulty of reading, cause Saudi students to take longer time in reading smaller pieces of reading, as previously mentioned, and, besides the longer time they demand, this causes them to lack the ability to synthesize what they have read to reach comprehension of the whole text. The reading itself is not a matter of operating one cognitive process at a time, rather, as suggested by the interactive model, is processing lower, higher, cognitive skills at the same time (Do and Phan, 2021). However, it is suggested that when the reader encounter difficulty in one level such as the lower (word recognition), he/she compensates this weakness with other levels that can get him/her understand the meaning of the word (it could be through guessing the meaning from the context).

6. Socio-cultural theory

From its title, it refers to implementing and interpreting the impact of the surrounding social and cultural context on building unique intellectual abilities for each learner or student. Donato and McCormick (1994) state that the social-cultural theory activates or switches the attention to the social factor rather than focusing only on the cognitive factors as builders and contributors to building an individual's knowledge. The social cultural theory was originated by the famous soviet theorist Lev Vygotsky who, as McVee et al. (2005) calls for identifying the important role of the social environment in thinking and constructing knowledge. His views and thoughts affect and contribute to many pedagogical fields. He was one of the well-acknowledged theorists who presume that knowledge is constructed by social interaction.

Moll (2001) states that the cause of not attending such social views before the 1970s was the absence of the English versions of Vygotsky's books. After the translation, such social views become more common and dominant to the degree that affects relying only on the schema theory as discussed above. Reading skill is one of the fields of study that are affected by social-cultural theories. The pivotal effect resulted in expanding the schema theory's view from focusing only on the previous knowledge as an isolated entity, as discussed earlier, to considering social and cultural factors. Vygotsky (1986) asserts that getting the meaning of words is not everything regarding the representation of words in the learner's mind. Acquiring a new word is approaching different accompanied social and psychological characteristics while acquiring the word's meaning or representations in the human mind. Thus, ignoring other related issues and conditions in the educational and social atmosphere regarding the learning process of reading skills is not going to reflect a comprehensive view toward understanding the learning process of reading. Such comprehensive understanding is important to figure out the real causes of some difficulties.

Socio-cultural theory and Saudi reading difficulties

This sociocultural theory could be attributed to Saudi difficulties in English reading in a way that they already constructed inappropriate attitudes toward reading. Through looking at the social input of Saudi English readers we notice that the most important point is looking for higher grades to get a suitable job, rather than having a deeper level of understanding what they have been read. In other words, the mind of the Saudi learner as it is socially developed and constructed, prefers to look at reading as associated with the social common expectations. The social expectations are more likely to limit reading to lower-order thinking skills. As a result, the focus of Saudi readers of English is directed toward having appropriate responses to reading tasks rather than comprehending and synthesizing the content of the given reading tasks. This socially constructed phenomenon toward learning in general and specifically reading in the Saudi context seems to be motivated by teachers, social members, and parents.

Here is another example, the Saudi learner as he/she is grown up in Saudi society, he/she is taught to associate silence with wisdom and respect. However, western culture has different interpretations of salient learners. Learner in the Western culture is taught to express their thoughts, ideas, and concerns and never remain silent. So, in the domain of second language reading, the mind of the Saudi reader already has some sort of knowledge about what should be done, but in most cases, this knowledge ends up with inappropriate interpretation or invalid conclusions. In reading tests, Saudi students usually stuck focus on the word recognition level and pay less attention to comprehension. They lack the idea that they should understand the most important pieces of the text to get the meaning, rather than spending too much time trying to understand the words. This can be attributed to their lack of reading strategies as well as their lack of the necessary reading skills. In addition, someone should understand that Saudi students incorrectly perceived the concepts of appropriateness and inappropriateness during their English reading. They should understand first, that they are not marginalized and they should dig deeper depending on themselves in the text to extract meaning, and what is more importantly, they should give their reflections and their points of view of the writer's product. They (Saudi learners) are taught to be guided by the teacher to provide his generous knowledge to help them pass the final exams. This causes Saudi students to be passive readers in the ESL context. The solutions that help Saudi students eliminate such reading difficulties seem to be hypothetically simple; however, from a realistic point of view, it is not an easy task to re-construct the learners' previous socially constructed experiences and concepts. This previous knowledge would affect the individual mind, and self-esteem and that would eventually affect his/her ways of looking at the world. Although there are continuous efforts to overcome this negative

effect of the constructed conceptualization, specifically, towards reading in English, it is still almost the same (possibly due to the fossilization).

There is another point that should be taken into account during addressing the difficulties of the Saudi readers of English, which is associating knowledge with high scores. As a result, the students are less motivated to read outside classrooms (intensive reading). The most important for them is reading in classrooms to achieve higher scores. Saudi students are also more likely to associate their reading with quantity, more than quality. Although they read a large amount of readings, their comprehension would be very low. Then, after trying to read a lot, they turned to be deactivated and had a negative attitude toward reading in both Arabic and English. Reading for Saudi students seems to be reading what teachers ask, to meet the teachers' expectations and make them satisfied as well as reading for the exams (nothing more). As a result, Saudi students would transfer their negative attitude toward reading in the ESL context.

7. Cross-language interference

This is an important concept in second/foreign language learning. It refers to the influence revealed by one language on the other language in an individual mind (Jarvis and Pavlenko, 2008). However, there are a large number of studies that support cross-language interference through transferring certain language features. Koda (2004) stated:

A good number of studies have shown that various aspects of L1 capabilities are transferred during L2 production and interpretation: morphosyntax (e.g. Hakuta, 1976; Hancin and Nagy, 1994; Kilborn and Ito, 1989; Sasaki, 1991, 1993), phonology (Gundel and Tarone, 1983; Hancin-Bhatt and Bhatt, 1997), pragmatics (e.g. Rutherford, 1983; Yanco, 1985), metalinguistic awareness (Durgunoglu et al., 1993; Koda, 1998, 1999, 2000b), and communicative strategies (e.g. Cohen et al., 1986; Irujo, 1986; Olshtain; 1983; Scarcella, 1983). (p.13–14).

Koda added, that in light of these studies, it is reasonable to assume that reading skills of one language can be transferred to another language. When we look specifically at the linguistic features of Arabic and how these could have some influence on reading English. Doing so may help in understanding the difficulties that Saudi learners of English usually encounter during their reading. The first language's aspects that could be transferred and have some interference during reading is the Arabic phonology. Arabic phonology seems to cause Saudi readers of English to have a longer time to process the English graphemes, especially the graphemes that correspond with unfamiliar phonemes to the Arabic speakers (such as /p/ & /v/ and other several vowels). Saudi readers of English are more likely to spend most of their time focusing on text decoding, while their attentions are distracted by this, and then probably they lack their concentration on comprehension.

According to Wang (2006), who examined the phonological and orthographical interference of Korean children while reading English. In other words, this study investigates the relationship between phonology and orthography. Specifically, the subjects recruited for this study were forty-five Korean-English children. The instrument used was reading skills tests in first language L1 Korean and second language L2 English where the focus is on three main processes; reading, phonological, and orthographic. The conclusion showed a positive and strong correlation between L1 and L2 phonological processes. However, the transfer of orthographic skills between L1 and L2 revealed the limited relationship between the two systems.

Through looking at Wang's study, we can reveal that the three main processes looked at in the research are merely lower-order thinking skills. Even when we look at the first one, that is reading, we

can notice that the reading is merely corresponding graphemes with phonemes in spoken discourse, without any indication of comprehension. So, this research could be looked at reading preferring the bottom-up approach. However, the following study that is Davis and Bistodeau (1993), looks at higher-order thinking skills in reading. It tries to understand the deeper meaning of cross-linguistic interference (transfer) of reading skills.

Davis and Bistodeau (1993) in their study *How do L1 and L2 Reading Differ? Evidence from Think Aloud Protocols* investigates the role of processing strategies of proficient adults and tries to answer whether these processing strategies used in the first language (L1) are similar to those used in the second language (L2) or they are different. To approach its purpose, this study examined the text topic and its effect on processing strategies in both L1 and L2. The participants of this study were sixteen-second language learners divided equally into two subgroups in respect to their L2. Eight participants were native readers of English learning French as an L2 (mean age 18.5), and Eight participants were native readers of French learning English as an L2 (mean age 22.5). The instrument this study used is recording participants during their reading articles “thinking aloud protocol”. Participants during their navigation of the text items were asked to speak their thoughts exactly. Reported strategy categories retrieved from participants suggested 13 comments on their reading behavior, expecting or confirming what come next in the article.

The revealed strategies are grouped into three categories; bottom-up, top-down, or metacognitive strategies. The analysis also used the reader’s recall protocols for using strategy. The findings showed that native readers of English used strategies of bottom-up in their French reading; while the findings showed no significant strategy used in the native readers of French. Both groups in their L2 reading were more critical of the article’s use and the author’s style. It is suggested the factors that affect reading performance can be determined through two practices: vocabulary knowledge & culturally defined literacy.

8. Conclusion

Second language reading is seen as the entrance to learning a second language. It is of utmost importance to enrich the L2 learners’ knowledge (lower and higher mental operations). It gives the reader an open access to new vocabulary (lower level) and also, it provides several new themes to construct meaning. Second language reading is far different from reading in L1 since the learner has already received reading literacy in L1. First language reading starts after several years of exposure to other sorts of language such as speaking, and listening. However, reading in a second language starts at the same time as learning other language skills. The reader learns reading in L2 while at the same time expected to learn listening, and speaking. When the reader tries to be competent in L2 reading, he/she at the same time recalls their pre-existed concept of what it meant by reading proficiency. For example, as shown above, Saudi learners of English trained over years in their prior education to look at the surface structure of reading. They conceptualized reading as merely the ability to decode the print and know the meaning of words, to help them understand the meaning of the sentences in a way that highlights the bottom-up point of view of reading. However, they almost never trained to upgrade their understanding to look at, for example, the underlying inferences of the text, which requires higher mental operations. In addition, the reading section in language standardized tests such as TOEFL, examines the readers’ ability of higher cognitive skills, such as why the writer includes particular sentences in a particular paragraph. Then, understanding the meaning of words, or sentences, would not offer Saudi test takers the ability to respond correctly. Additionally, even the lower cognitive operations receive some difficulties due to Arabic interference, which causes Saudis to have a longer time in processing word recognition level.

To sum up, the main reasons for Saudi L2 reading difficulties are due to several reasons; most of them are related to prior education, features of L1 and cross-language interference, and sociocultural factors. All of these factors together, of which play a role in causing the Saudi students to have reading difficulties. However, if we want to organize these reasons in a hierarchical order, the educational background would be at the top. The identity of the Saudi readers of English is constructed over time, and it is not simple to reconstruct it and change what is already built in their attitude toward reading. However, this is not an impossible mission. Saudi students urgently need to redefine reading to match higher-order processes and not only what they usually thought; understanding the surface meaning of words. They should receive motivation as well as some patience, and they should be exposed to well-prepared training programs in reading that activate students' self-confidence, and awareness of higher-order thinking skills while reading and implementing intensive and extensive reading strategies. They should understand that they can do something, and they can change something, but they first should change their perspective toward themselves. Doing so motivates them to reorganize their priorities from reading to passing into reading to knowing. Being eager to know, can motivate them to read in Arabic and then in English, change their perspectives toward reading, and most of the time incorrectly associate reading with school. Simply, to read more is to know more.

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Conflict of interest

The author declares no conflict of interest.

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